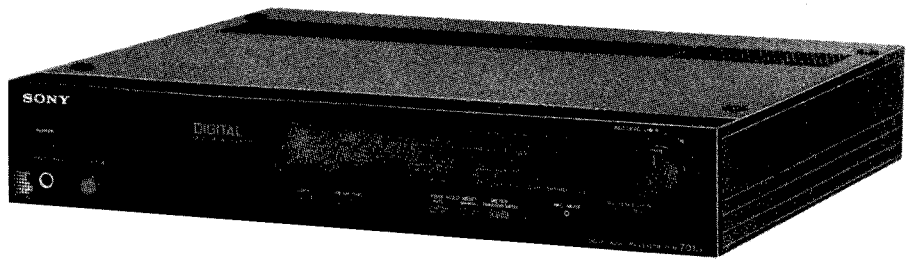
PCM-701ES

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model



SPECIFICATIONS

Signal system	Conforms to CCIR television standard, PAL, SECAM color (PAL/SECAM system) or Conforms to EIA television standard, NTSC color (NTSC system)
Code format	Conforms to the technical specifications of the EIAJ (standard format using 14-bit quantization), or 16-bit quantization format
Number of audio channels	2 channels
Sampling frequency	44.1 kHz (PAL/SECAM system) 44.056 kHz (NTSC system)
Quantization	14-bit linear quantizing, or 16-bit linear quantizing
Frequency response	10 - 20,000 Hz ±0.5 dB
Harmonic distortion	Less than 0.007% (14-bit format) Less than 0.005% (16-bit format)
Dynamic range	More than 86 dB (14-bit format) More than 90 dB (16-bit format)
Channel separation	More than 80 dB
Wow and flutter	Below measurable limit
Error correction	Error correction and concealment using CRCC and parity
Emphasis	Pre-emphasis (on recording) : fixed at ON De-emphasis (on playback) : automatically switched ON or OFF (by detecting pre-emphasis identification code) Time-constant : 50 μsec, 15 μsec

Inputs

	Type	Reference input level	Impedance	Minimum input level
LINE IN	Phono	−10 dB*	50 kilohms	77.5 mV (−20 dB)
VIDEO IN	Phono	1 Vp-p	75 ohms	—

Outputs

	Type	Reference output level	Load impedance
LINE OUT	Phono	−10 dB	More than 10 kilohms
MONITOR OUT	Phono	1 Vp-p	75 ohms
VIDEO OUT	Phono	1 Vp-p	75 ohms
COPY OUT	Phono	1 Vp-p	75 ohms
HEADPHONES	Stereo phone	−24 to −48 dB Attenuation : 5 steps (24, 18, 12, 6 and 0 dB)	Accepts low impedance headphones.

— Continued on page 2 —

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

DIGITAL AUDIO PROCESSOR

SONY®

AUD

PCM-701ES

General

Power requirements	AEP model: 220 V ac (240 V ac adjustable by authorized Sony personnel, 50/60 Hz) UK model: 240 V ac (220 V ac adjustable by authorized Sony personnel, 50 Hz) US, Canadian model: 120 V ac, 60 Hz
Power consumption	40 W
Dimensions	Approx. 430 × 80 × 375 mm (w/h/d) (17 × 3 1/4 × 14 7/8 inches) including projecting parts and controls
Weight	8.5 kg. (net) (18 lb. 12 oz.) 9.5 kg. (in shipping corton) (21 lb.)

0 dB = 0.775 V

FEATURES

In conventional analog recording systems, the quality of sound reproduction depends upon the properties of magnetic tape and heads. Even with the latest metal tape it is virtually impossible to bypass the inherent limitations of conventional analog recording, including its limited dynamic range and frequency response, and its associated distortion.

The Pulse Code Modulation (PCM) system ushers in a new era of sound reproduction and offers performance and fidelity far superior to analog systems. In the PCM system, sound levels are converted to a series of binary codes. This information is recorded as digital pulses of equal amplitude. In playback, all that has to be done is to discriminate between the presence and absence of a pulse. The quality of recording and playback is thus not dependent on the characteristics of tape and heads.

The PCM-701ES is the latest and most sophisticated Sony PCM digital audio processor for general audio use. It offers its own built-in power source for convenient operation, and the host of other features outlined below for the ultimate in audio listening pleasure. The PCM-701ES gives you stereo sound reproduction with a wide dynamic range, minimal distortion, low wow and flutter (even lower than the measurable limit), and a flat frequency response. Listening to digital audio sound tapes on your PCM-701ES is just like being in a concert hall.

Compact PCM digital audio processor with modern component design

While several hundred ICs are employed in the digital processing circuitry of conventional digital audio processors, 3 new LSIs help make the PCM-701ES as compact and modern in design as your other audio equipment. The unit also incorporates A/D (analog-to-digital) and D/A (digital-to-analog) converters which are newly developed monolithics. All function to make the PCM-701ES unexcelled in performance and reliability.

Resolution selector for recording and playback with wider dynamic range and less distortion

The PCM-701ES was developed in accordance with the technical specifications of the Electronic Industries Association of Japan (EIAJ), which has adopted the 14-bit linear quantization format. In addition, the unit has the capability of recording and playback in accordance with the 16-bit linear quantization format which offers a wider dynamic range and less distortion than the 14-bit format. The 14-bit and 16-bit formats can be selected with the REC RESOLUTION (record resolution) selector.

Easy tracking adjustment for tracking of video heads

The R (right) channel of the peak program meters converts to a tracking meter, allowing for easy and correct tracking adjustment of the video heads.

PB MUTING (playback muting) button provides option of continuous listening

The PCM-701ES features a playback muting system that gives you the option of having dropouts cut out automatically when the muting circuit is switched on. Or, you can simply set the button to OFF for continuous, uninterrupted listening. Muting also functions at double and triple tape speed.

Extremely accurate error-detection and correction circuits

These keep dropout errors from effecting the quality of sound reproduction.

Convenient record muting function

A highly convenient record muting function allows you to create blank spacing between selections to cut out unwanted talk and commercials.

COPY OUT jack for perfect tape copies

Multi-generation, digital-to-digital tape copy can be performed using the COPY OUT jack on the back of the unit with absolutely no deterioration in signal quality.

Bright, easy-to-read peak program meters

Fluoresent peak program meters provide two types of sound level indication for precision setting of recording and playback levels.

Stable power supply

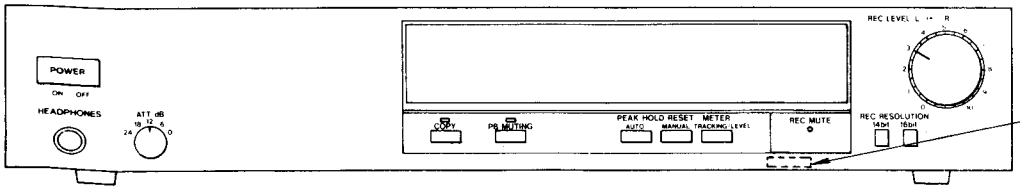
Two separate circuits, one for the digital circuitry and one for the analog circuitry, assure stable power supply.

Separate MONITOR OUTPUT jack allows connection with the Sony Profeel series and other video monitors

Thers's no need to disconnect your digtal audio processor to monitor video tapes and T.V. The MONITOR OUTPUT jack on the back of the PCM-701ES allows transmission of video signals whether the PCM unit is switched on or off.

SIGNAL SYSTEM IDENTIFICATION

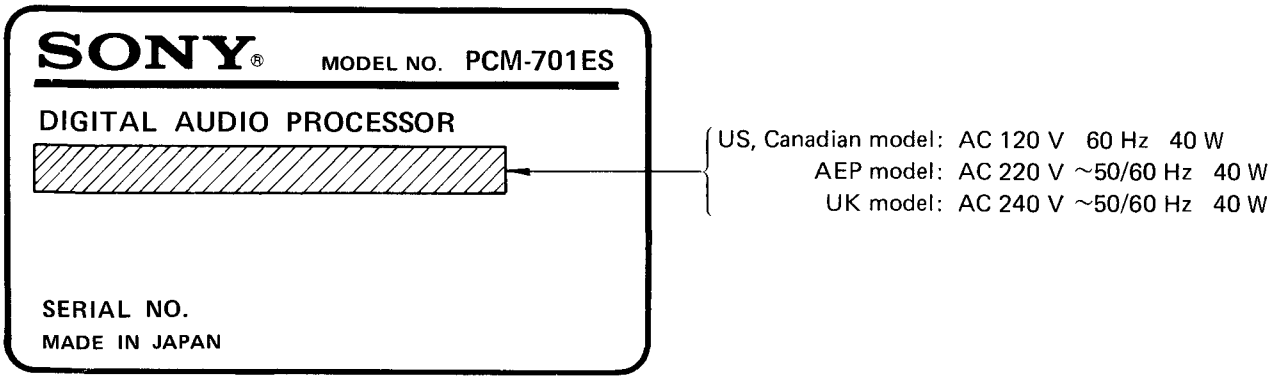
Front panel



{ NTSC System: (no lettering)
{ PAL/SECAM System: PAL/SECAM

MODEL IDENTIFICATION

Specification Label


SONY® MODEL NO. PCM-701ES
DIGITAL AUDIO PROCESSOR
SERIAL NO.
MADE IN JAPAN
US, Canadian model: AC 120 V 60 Hz 40 W
AEP model: AC 220 V ~50/60 Hz 40 W
UK model: AC 240 V ~50/60 Hz 40 W

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

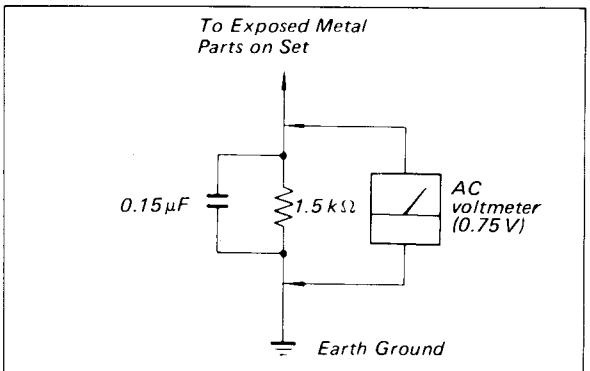
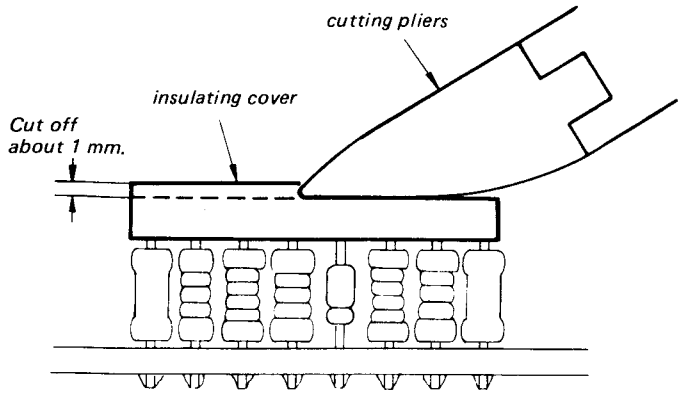
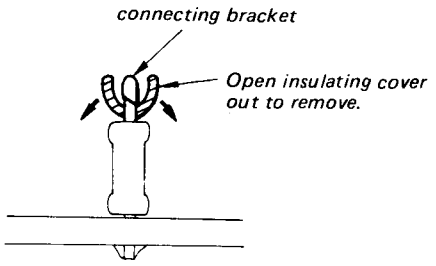


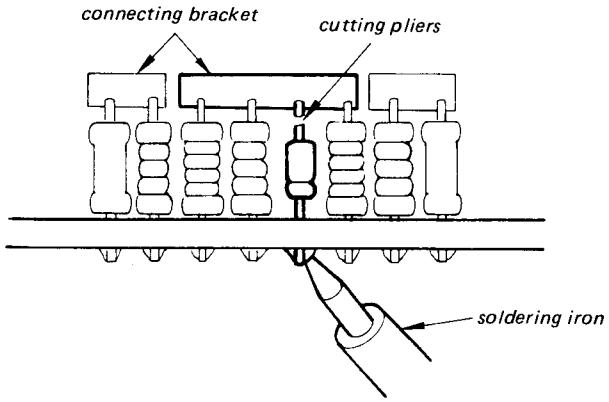
Fig. A. Using an AC voltmeter to check AC leakage.

REPAIR METHOD FOR HYBRID CIRCUIT BLOCK

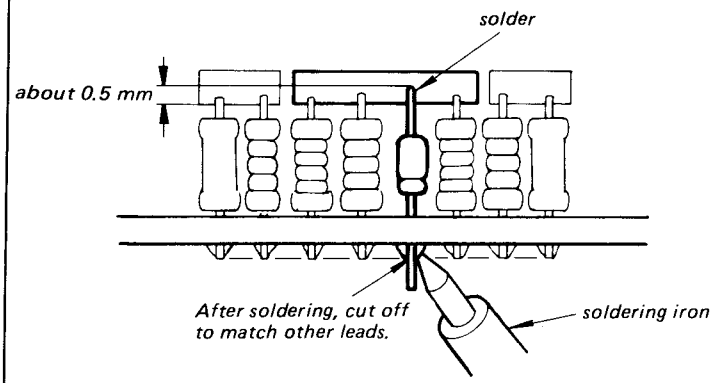


Using a cutting pliers, cut off the upper portion of the insulating cover about 1 mm, exposing the top of the connecting brackets.

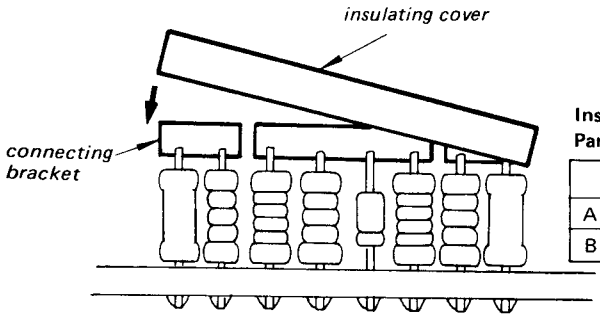




Cut off the lead of the defective part with cutting pliers. Remove solder and take out the defective part.



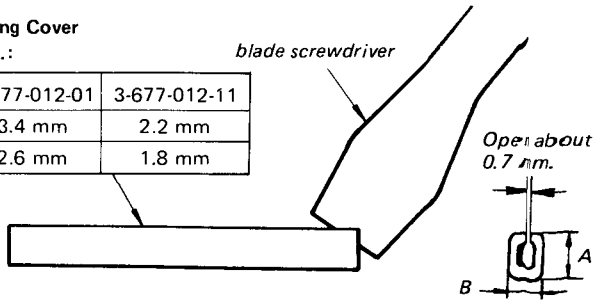
Insert the new part on the board and solder the lead to the board. Cut off the lead on the connecting bracket side so that it overlaps by about 0.5 mm, and solder to the connecting bracket.



Open the insulating cover groove about 0.7 mm and place over the connecting brackets, positioning one end first.

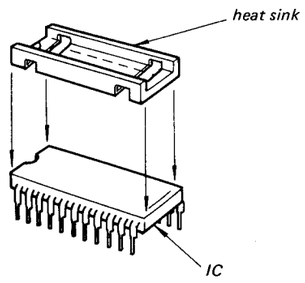
Insulating Cover Part No.:

	3-677-012-01	3-677-012-11
A	3.4 mm	2.2 mm
B	2.6 mm	1.8 mm



Notes on IC505 Replacement

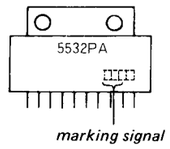
- When replacing IC505, first clean the top of the IC and the bottom of the heat sink with alcohol, then apply an epoxy type adhesive* to the heat sink with IC chip, as shown in the illustration below.



* Epoxy type adhesive: Sony bond SC1000 or other quick drying 2 liquid compound.

Notes on IC401 Replacement

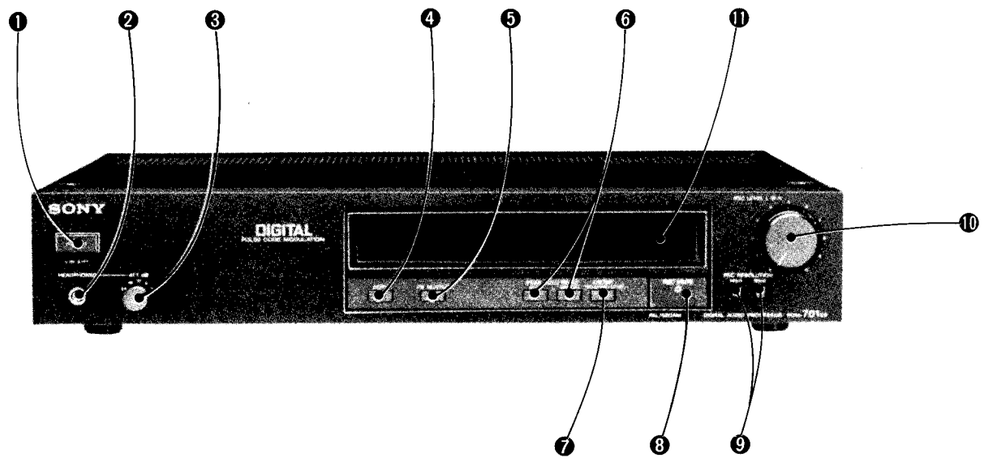
- When replacing IC401 (NJM5332P-A), add or delete C401, 402 depending on the marking signal of IC as shown below.



When the marking signal is "20", add C401, 402 (mounting).
When the marking signal is "25", delete C401, 402.

LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL



❶ POWER switch
Press to turn on the power. The peak program meter indicators will illuminate ; to turn the power off press the switch again.

❷ HEADPHONES jack (stereo phone jack)
Insert the headphones to monitor recording input levels, or to listen to a recording in the playback mode.

❸ ATT (headphone attenuation) control
5-step volume adjustment for headphone listening.

❹ COPY (digital tape copy) button
Set this button to ON for digital-to-digital tape copying using a pair of video recorders and the COPY OUT jack at the rear. An indicator illuminates above the button when the copy switching is activated.

●Be sure to set the copy button to OFF except for digital tape copy. With the button set to ON, signals are not transmitted through the VIDEO OUT jack (see "Digital Tape Copy", page 14).

❺ PB MUTING (playback muting) button
The playback muting circuit activates automatically when you turn on the unit, and an indicator lights above the button when the muting circuit is functioning. You only need to press the playback muting button when you want the muting function turned off.
The playback muting circuit cuts out sound reproduction when frequent dropouts occur due to mistracking of the heads of the video recorder, or scratches and dust on the magnetic tape. If you do not want the sound reproduction cut off, such as with low quality tapes, set the PB Muting button to OFF (see "Using the PB MUTING button", page 13).

❻ PEAK HOLD RESET buttons
The PCM-701ES peak program meters feature two types of peak level indications.
When the AUTO button is pressed : successive peaks are held for aproximately 1.7 seconds, except when a higher peak occurs before 1.7 seconds have elapsed, in which case the peak is immediately indicated. This mode of peak level indication is activated automatically when the power is turned on.
When the MANUAL button is pressed : the peak level will be held on the scale until a higher peak occurs, in which case the latter peak is held. To reset the peak held on the meter, just press the manual button. This method of peak input is useful when you want to know both the highest peak on a tape or disc, or when you want to know both the highest peak as well as intermittent peak input levels for live recording.

❼ METER selector button
Press this button to convert the peak program meters into a tracking meter. Each time the selector is pressed, the function of the meter changes. When the power is turned on initially, the peak program meters function automatically.

❽ REC MUTE (record muting) button and indicator
Keep this button depressed to eliminate unwanted material and to create blank spacing between selections when recording. The REC MUTE indicator illuminates while the button is held depressed, and the level of the recorded signal is reduced to "Zero". While the record muting is operating, the video control signal of the video recorder is still transmitted to permit proper playback.

❾ REC RESOLUTION (record resolution) selectors
These buttons select the resolution for recording.

14-BIT : for recording in accordance with the technical specifications of the Electronic Industries Association of Japan (EIAJ) which has adopted the 14-bit linear quantization format.
Press this button when the tape recorded with this unit is to be played back using another PCM digital audio processor which conforms to the 14-bit quantization format of the EIAJ.
16-BIT : for recording and playing back in the 16-bit quantization format. As the 16-bit format offers a wider dynamic range and less distortion than the 14-bit format, normally use the 16-BIT selector setting (see page 22 for details on 14-bit and and 16-bit formats).
During playback, the proper quantization format is automatically selected for the tape being played.

❿ REC LEVEL (recording level) controls
These controls adjust the recording level. The outer control is for the left channel, and the inner control is for the right channel.

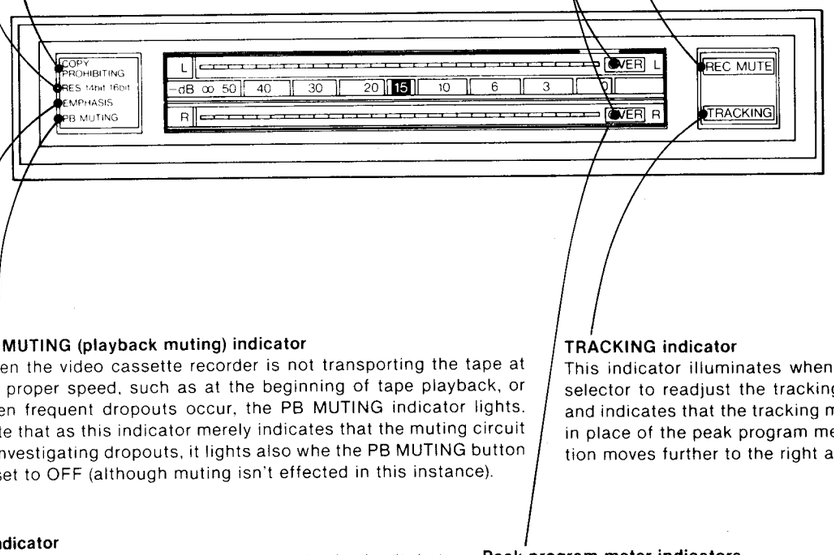
⓫ Display indications

RES (resolution) indicator
Displays the resolution (14-bit or 16-bit) of the signal being transmitted to the VIDEO IN jack. During playback, this indicator automatically displays the resolution of the tape being played, irregardless of the REC RESOLUTION selector setting.

OVER indicators
Light up when recording level signals exceed "0" dB to warn that the recording level is too high.
NOTE: This indicator lights primarily as indication that the LINE IN signal exceeds "0" dB and it will also light during playback when the LINE IN signal exceeds "0" dB. Disregard the "OVER" indication during playback while other equipment is operating.

COPY PROHIBITNG indicator
When a tape with a tape copy prohibiting code is played back, this indicator will light up to show that a digital tape copy cannot be made.

REC MUTE (record muting) indicator
Illuminates while the REC MUTE button is depressed.



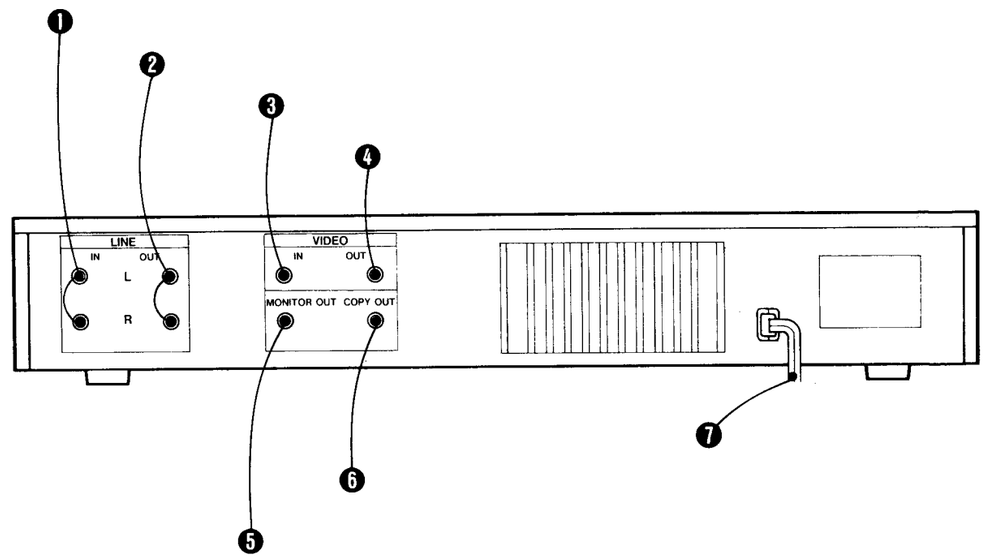
PB MUTING (playback muting) indicator
When the video cassette recorder is not transporting the tape at the proper speed, such as at the beginning of tape playback, or when frequent dropouts occur, the PB MUTING indicator lights. Note that as this indicator merely indicates that the muting circuit is investigating dropouts, it lights also whe the PB MUTING button is set to OFF (although muting isn't effected in this instance).

TRACKING indicator
This indicator illuminates when you press the METER selector to readjust the tracking of the video recorder and indicates that the tracking meter is being displayed in place of the peak program meters. The meter indication moves further to the right as tracking improves.

EMPHASIS indicator
This model PCM digital processor features an emphasis circuit that automatically activates to improve the signal-to-noise ratio of digital tapes. All tapes which are recorded and later played back on this unit are "emphasized", as are prerecorded tapes featuring emphasis, and tapes recorded on other PCM digital processors using emphasis.
When tapes recorded without emphasis on other digital processors are played on this unit, the EMPHASIS indicator will not illuminate.

Peak program meter indicators
These fluoresent indicators illuminate to indicate the input level of each channel during recording, and the recorded level during playback. For easy reading, they hold the level of the highest peak while also following the level of transient peaks below the peak.
When the meter selector is pressed, the lower (R) channel meter converts to a tracking meter that gives the tracking condition of the video recorder.

REAR PANEL



❶ LINE IN (phono input jacks for audio components)
Connects with the tape outputs of an audio amplifier and the LINE OUT jacks of a stereo microphone amplifier.

❷ LINE OUT (phono output jacks for audio components)
Connects with the tape inputs of an audio amplifier.

❸ VIDEO IN (phono jack)
Connects to the video outputs of a video cassette recorder.

❹ VIDEO OUT (phono jack)
Connects to the video inputs of a video cassete recorder. (Note: the output signal for this jack is cut off when the COPY button is set to ON.)

❺ MONITOR OUT (phono jack)
Connects to the input jack of Sony Profeel type and other video monitors.

❻ COPY OUT (phono jack)
For digital tape copying. When making digital tape copies, connect the COPY OUT jack to the VIDEO IN jack of the second video recorder and set the COPY button to ON. VTR 1 will be used to playback the recorded tape and VTR 2 will make the copy.
NOTE: The copy out jack can also be used for conventional recording of two tapes simultaneously. In this instance, leave the COPY button set to off.

CAUTION: Only use the COPY OUT jack for digital copying or for simultaneous recording using two video recorders. Never make connections with the COPY OUT jack for normal recording using only one video recorder. If the COPY OUT jack is used as a conventional video output, distorted sound reproduction will result.

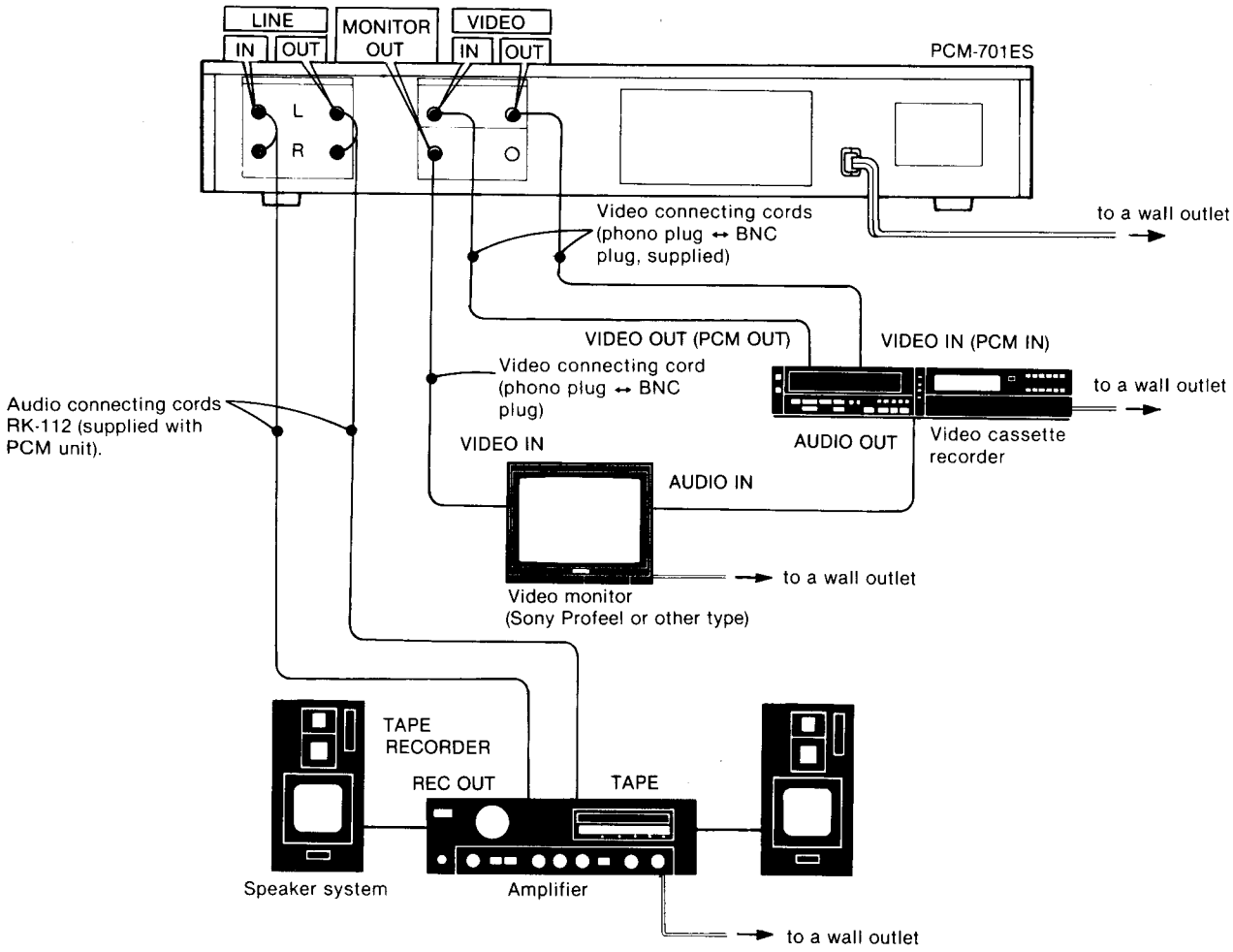
❼ Power cord

CONNECTIONS FOR USING A VIDEO CASSETTE RECORDER FOR VIDEO MONITORING WITHOUT DISCONNECTING THE PCM UNIT

One video cassette recorder can be used for both PCM digital sound reproduction and television or video tape monitoring without requiring that the PCM-701ES digital processor be disconnected or that a separate switch box be used.
Make the connections as diagrammed below.

When using this set up for PCM applications only: Set the POWER switch of the monitor unit to OFF.

For video tape/T.V. monitoring: Set the POWER switch of the PCM unit to OFF.

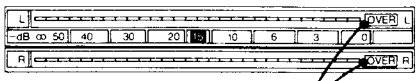


The AUDIO OUT connector of the video recorder can also be connected to the AUX inputs of the amplifier.

PCM DIGITAL RECORDING

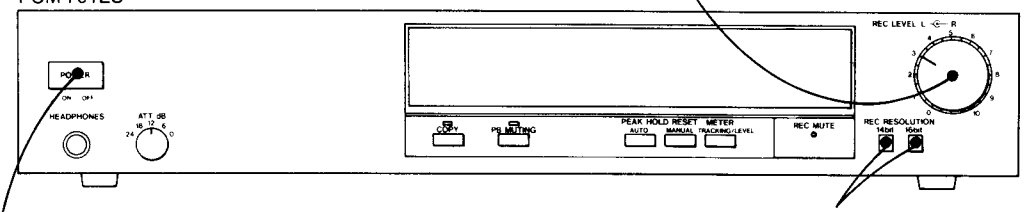
The basic procedure for PCM digital recording is described below. Follow the numbered sequence. Be sure to refer to the instruction manual supplied with the respective components to ensure quality recording.

4 Adjust the sound level for the tape to be recorded.



Adjust the REC LEVEL controls so that the red OVER indicators on the peak program meters do not illuminate at the highest signal level (see "Recording Level Adjustment", next page).

PCM-701ES

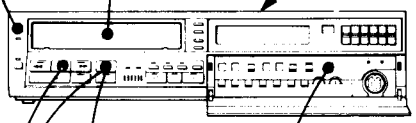


REC RESOLUTION selectors:
Normally set to 16 bit
(Do not change selector settings while recording)

1 Turn on the POWER switches.

2 Insert a video cassette.

PCM switch (on back): → to PCM



Input selector switch: → to EXT. IN/PCM

3 Set the video recorder to standby (normally depress PAUSE and REC) to monitor recording levels.
(Check that the PCM unit PB MUTING indicator does not light*)

5 To record, hold the RECORD button depressed and press the PLAY button.

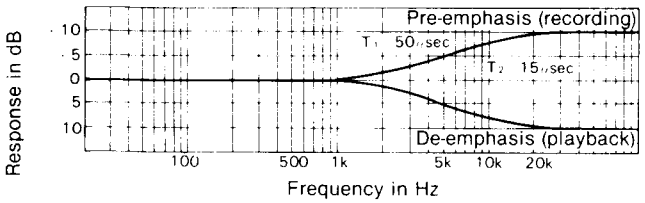
When the recording is completed, press the STOP button.

Video cassettes for PCM digital audio recording:
For digital audio recording, use L-type video cassette tapes numbered "L-500" or below (i.e, L-500, L-250, L-125, etc.).

* This could indicate that the tape is damaged. If the PB MUTING indicator lights, replace the tape to ensure quality recording.

RECORDING LEVEL ADJUSTMENT

The PCM recording system has no reference level, but an absolute maximum value of 0 dB. If all the input signals are recorded under 0 dB, the PCM-701ES assures equal characteristics at any input level. This is why the peak program meters of this unit have no plus indications.
Note that the peak program meters show the pre-emphasized input signal levels (see the diagram below). For this reason, it is important to adjust the recording level so that there will be no clipping over 0 dB.



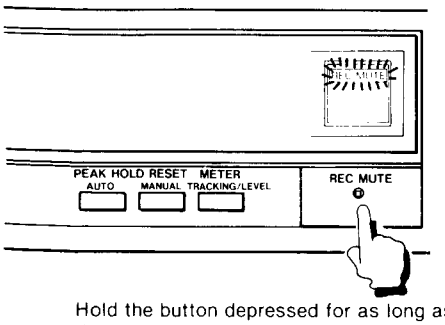
Adjust the recording level with the REC LEVEL controls so that the peak program meters do not deflect over 0 dB.
The red illumination of the OVER indicators warns of an overload during recording. If the indicators illuminate frequently, the recording level is set too high (this will result in overload and distorted recording). As the peak program meters used in this unit are far more sensitive than conventional VU meters, also be careful not to set the recording level too low, as the signal-to-noise ratio will deteriorate. The correct recording level settings vary with the program source you are recording. Generally, adjust the level to about −15 dB.

RECORD MUTING

By using the REC MUTE button during recording, you can provide an interspacing in the recording, eliminating unwanted material such as talk and commercials.

To insert a blank
Depress the REC MUTE button for as many seconds as you want the blank segment on the tape to be. The REC MUTE indicator will light. When you release the button, recording will resume.

NOTE : Although the incoming signal is not recorded on the tape while the record muting function is operating, the signal levels continue to register on the peak program meters and you can monitor the program source through the speakers or headphones.



Hold the button depressed for as long as you want the blank segment on the tape to be.

Normally Set the COPY Button to OFF :
The COPY button should be set to ON only for digital tape copying. Always set the button to OFF for conventional recording and playback (conventional recordings cannot be made with the COPY button set to ON).

Avoid excessive use of the "PAUSE" button of video cassette recorders
The PAUSE button of a video cassette recorder is highly convenient for video recording and playback. For digital audio tapes, however, extended use of the PAUSE button could damage the tape. When recording or playing digital audio tapes, use the PAUSE button only when needed, and do not leave it ON for extended periods of time. Also note that with certain video cassette recorders the playback muting function does not operate efficiently while the PAUSE button is depressed and noise will be heard.

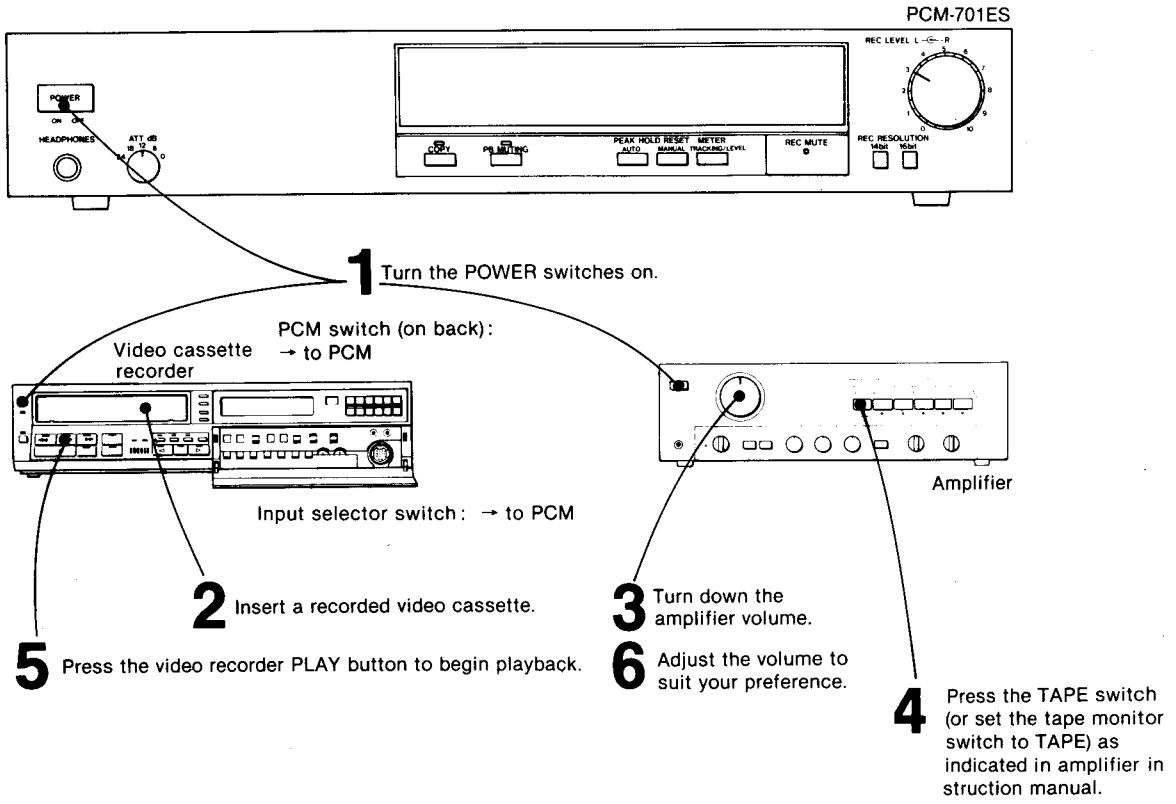
If the peak program meters do not respond when monitoring a recording :
Check that the VIDEO IN jack of the PCM unit and the VIDEO OUT jack of the video recorder are firmly connected.
Although recording is possible if these connections aren't made, you cannot monitor the recording, and the peak program meters will not deflect.

If the record button of the video cassette recorder doesn't operate :
Video cassettes incorporate safety tabs just as do audio cassettes and chances are the tabs have been removed. If so, simply cover the slot with a piece of plastic tape (refer to the instruction manual of your video recorder for details).

How to make connections for recording two digital tapes simultaneously :
Connect the second video cassette recorder to the COPY OUT jack of the PCM unit.

PCM DIGITAL TAPE PLAYBACK

The basic procedure for playback of digital audio tapes with your PCM digital processor and a video cassette recorder are described below; follow the numbered sequence. Refer to the instruction manuals of the respective components to ensure quality playback.

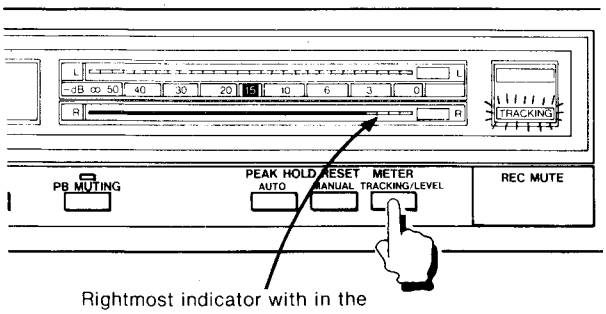

PCM-701ES
1 Turn the POWER switches on.
PCM switch (on back): → to PCM
Video cassette recorder
Amplifier
Input selector switch: → to PCM
2 Insert a recorded video cassette.
3 Turn down the amplifier volume.
5 Press the video recorder PLAY button to begin playback.
6 Adjust the volume to suit your preference.
4 Press the TAPE switch (or set the tape monitor switch to TAPE) as indicated in amplifier in struction manual.

Set the amplifier volume relatively low:
In the PCM system, a wider dynamic range is achieved than with the conventional analog system, and the peaks of high level inputs are recorded with high-fidelity. Also, the noise level is generally very low. If you turn up the volume inadvertently while listening to parts of the tape where no audio signals are present, or while low level imputs are being recorded, the speakers could be damaged when these portions of the tape are played. Take extra care not to inadverently turn the volume up in the above situations.

ADJUSTING THE TRACKING OF THE VIDEO CASSETTE RECORDER

When a video tape recorded on another video cassette recorder is played back, dropouts occasionally occur due to mistracking of the video heads. To obtain optimum sound reproduction, adjust the tracking of the video recorder as follows.

1 Press the METER selector. The TRACKING indicator will illuminate, and the lower peak level meter will convert to a tracking meter.
2 Insert the video cassette and set the video cassette recorder to the playback mode. After the PB MUTING indicator goes off, adjust the tracking control of the video recorder while observing the tracking meter scale on the PCM unit. Adjust the control so that the rightmost indicators illuminate within the permissible range of the tracking meter.

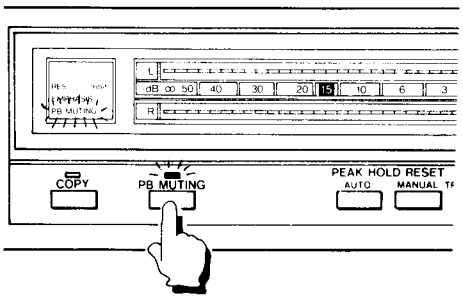


Rightmost indicator with in the permissible tracking adjustment range

For details on setting the correct tracking adjustment, refer to the instruction manual furnished with your video recorder.

USING THE PB MUTING BUTTON

The playback muting circuit activates automatically when you turn on the PCM unit. It serves to cut out the faulty sound reproduction that results when frequent dropouts arise due to scratches and dust on the tape, or the sound distortion that occurs when the tape speed varies such as at the beginning of tape playback, during accelerated tape advance, or when you press the pause button.
If the muting circuit activates so often as to make listening unpleasant, adjust the tracking control of the video recorder, then set the PB MUTING button to OFF. This will permit you to continue listening without interruption, although a certain amount of noise will be reproduced.



Note : With very poor quality or damaged tapes, sound may still be somewhat muted, even if the PM MUTING button is set to OFF. Note that the PB MUTING indicator will also light when the PB MUTING button is set to OFF, although in this instance muting is not effected.

IMPORTANT

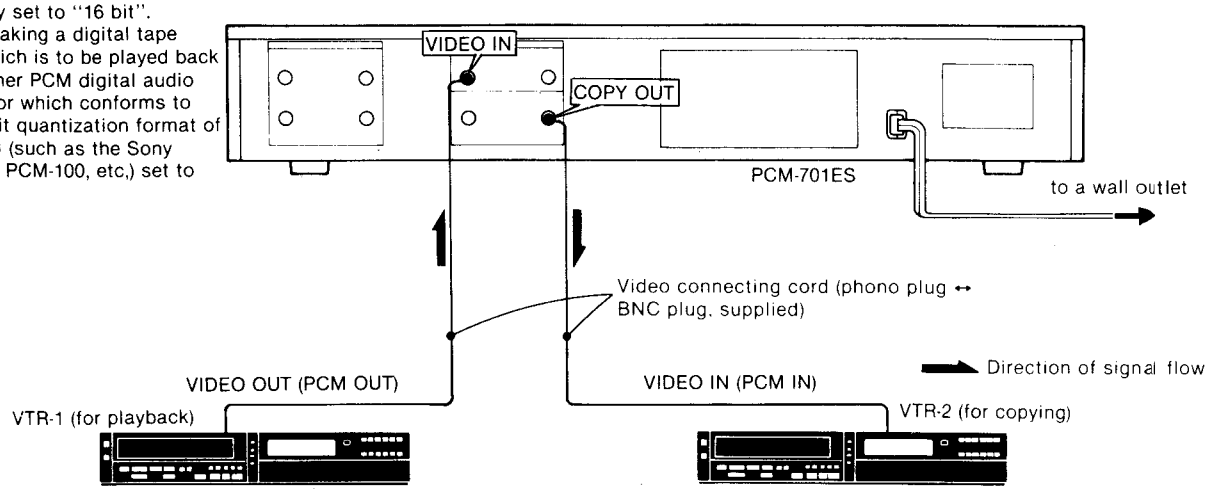
Be extremely careful that you do not mistakenly play a recorded video cassette tape in place of a digital sound tape while using the PCM unit. If you do this and the PB MUTING button is set to OFF, the video data could be misread for PCM data and clicking noise might occur which could damage your speakers. Also, be careful not to mistake a brand new, unrecorded tape for a recorded tape and play it. This could also produce noise detrimental to your speakers.

MAKING DIGITAL TAPE COPIES

Digital tape copies can be made with your PCM digital processor using a pair of video cassette recorders and the COPY OUT jack on the back of the PCM unit.
The high-quality recording characteristics of PCM digital processing, aided by extremely efficient error detection and correction circuits, ensures absolutely no deterioration in sound quality for digital-to-digital copying.

Make the connections as diagrammed below. Be sure that the COPY OUT jack of the PCM unit is connected to the video input of the video recorder being used to make the copy (VTR-2). Familiarize yourself with the operating features of both video recorders beforehand to ensure proper copying.

REC RESOLUTION selector (on front): normally set to "16 bit". When making a digital tape copy which is to be played back on another PCM digital audio processor which conforms to the 14-bit quantization format of the EIAJ (such as the Sony PCM-10, PCM-100, etc.) set to "14 bit".



COPYING PROCEDURE

1 Turn on the power for all units.
2 Insert the recorded tape into the video recorder you are using for playback (VTR-1), and a blank tape into the video recorder you are using to make the copy (VTR-2).
3 Set the PCM-701ES COPY button to ON (the COPY indicator will light).
4 Start playback for VTR-1, and set VTR-2 to record. Copying will begin.

● Noise interference may result if you press the COPY button while the volume is turned up. Keep the amplifier volume turned down when you press the COPY button.
● When the COPY PROHIBITING indicator is lit on the display panel of the PCM unit, copies cannot be made, even though the COPY button is set to ON.
● Always set the COPY button to OFF when tape copy has been completed.

Do not worry about the presence of distortion when monitoring digital tape copies :
When digital tape copies are monitored the COPY button is set to ON, and sound reproduction through the headphones or speakers may be somewhat distorted. However, the tapes will be copied with no deterioration in signal quality and the distortion will be corrected during normal playback with the COPY button set to OFF.

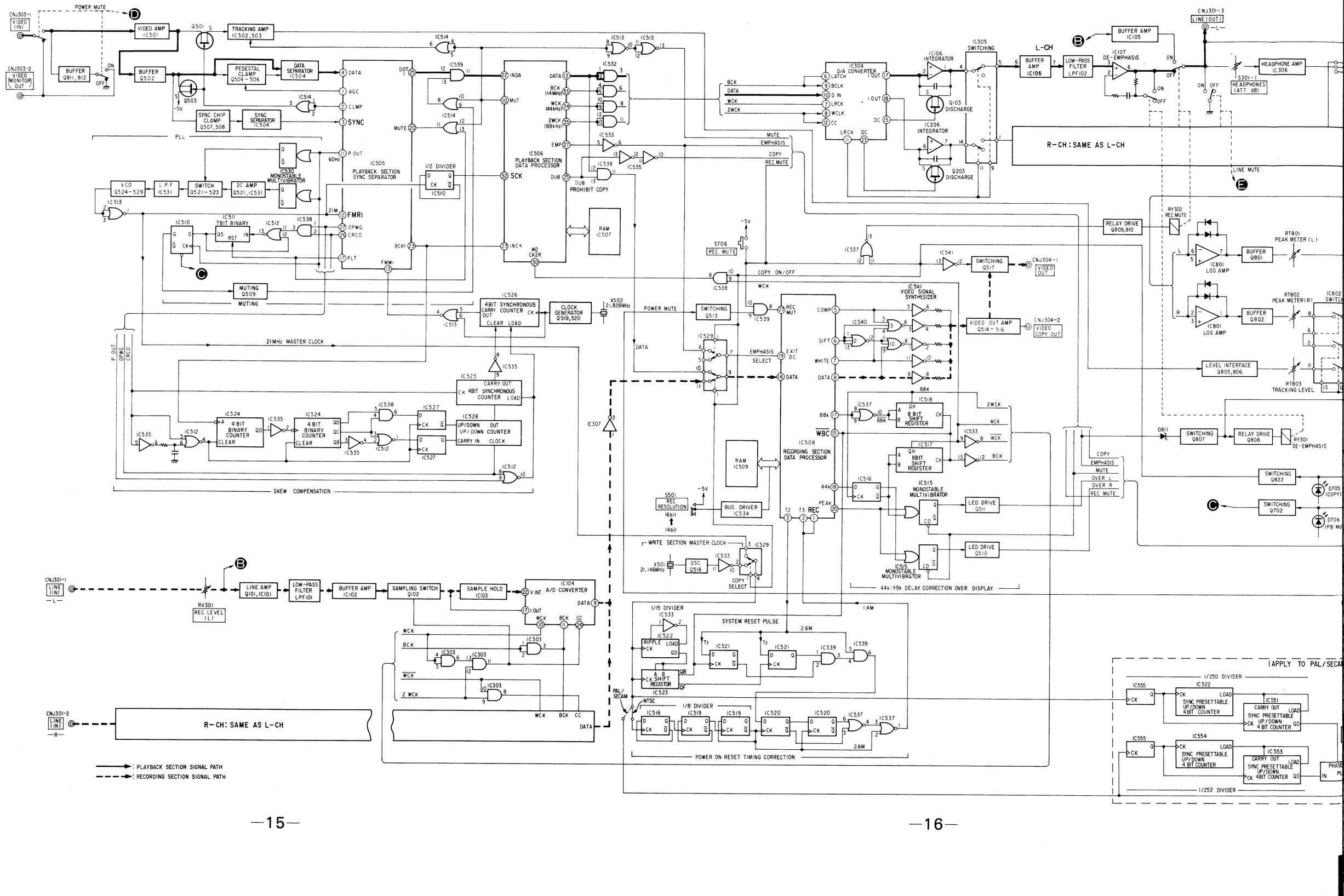
You do not need to adjust the recording level for digital tape copying :
Digital-to-digital tape copies are made at the signal level reaching the COPY OUT jack of the PCM unit during copying. Recording level adjustment isn't necessary.

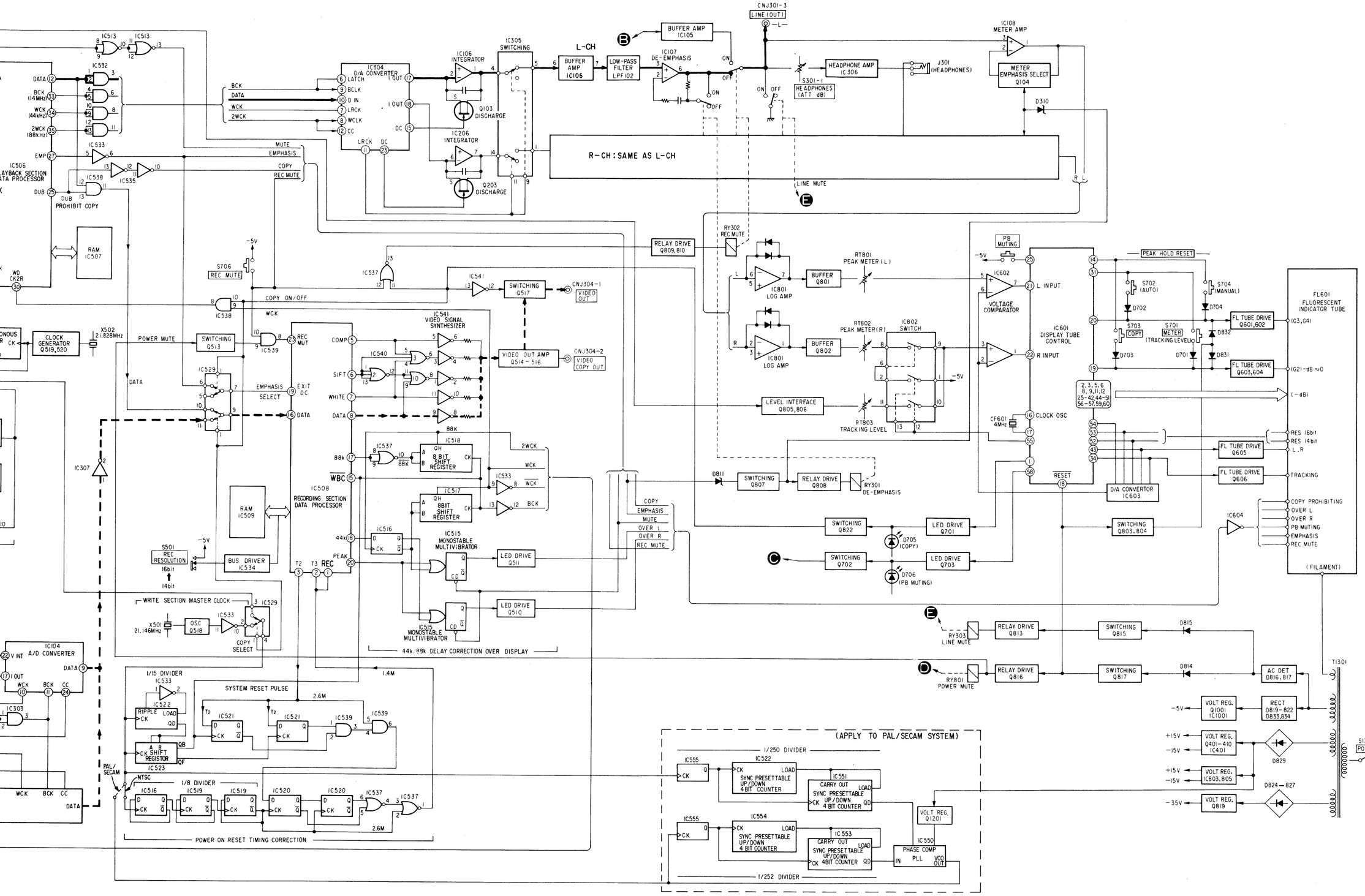
Digital tapes with a COPY PROHIBITING" code cannot be copied :
When tapes with a "copy prohibiting" code are played, the COPY PROHIBITING indicator lights on the display of the PCM unit and copies cannot be made.

Digital tape copies cannot be made with the COPY button set to OFF :
Always set the COPY button to ON when making digital tape copies and set the button to OFF after the copies have been made. Do not change the setting of the button during tape copy or during normal recording and playback. Digital-to-digital tape copies cannot be made with the COPY button set to OFF.

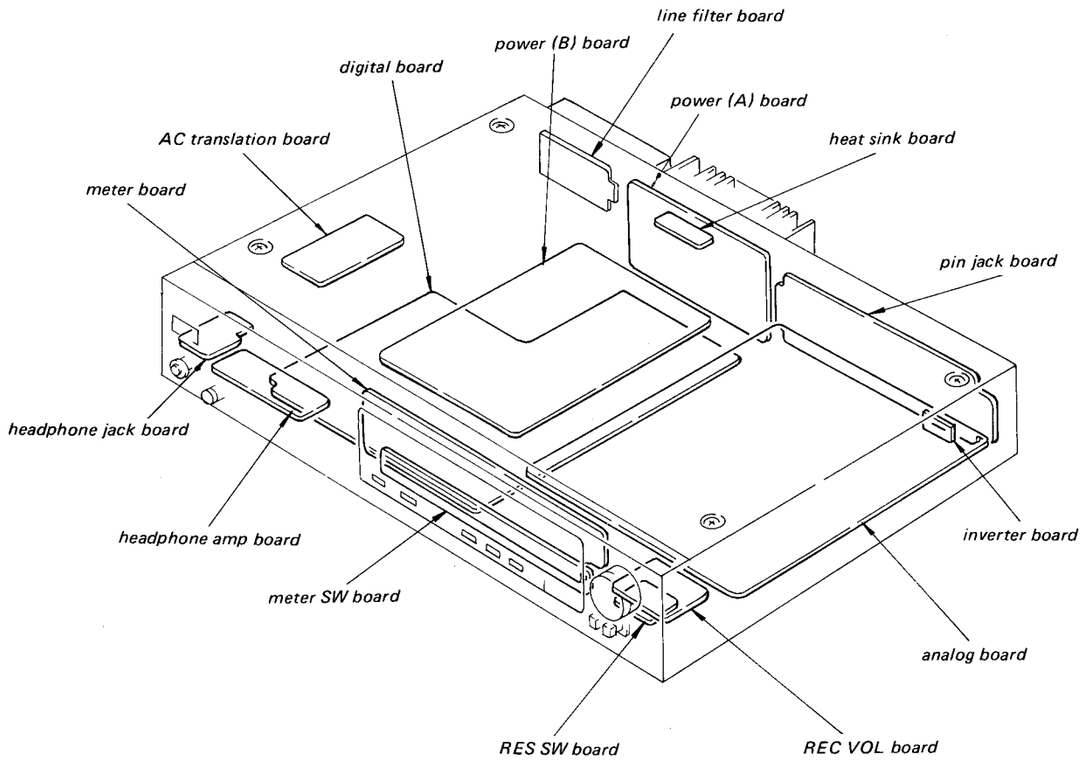
SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM



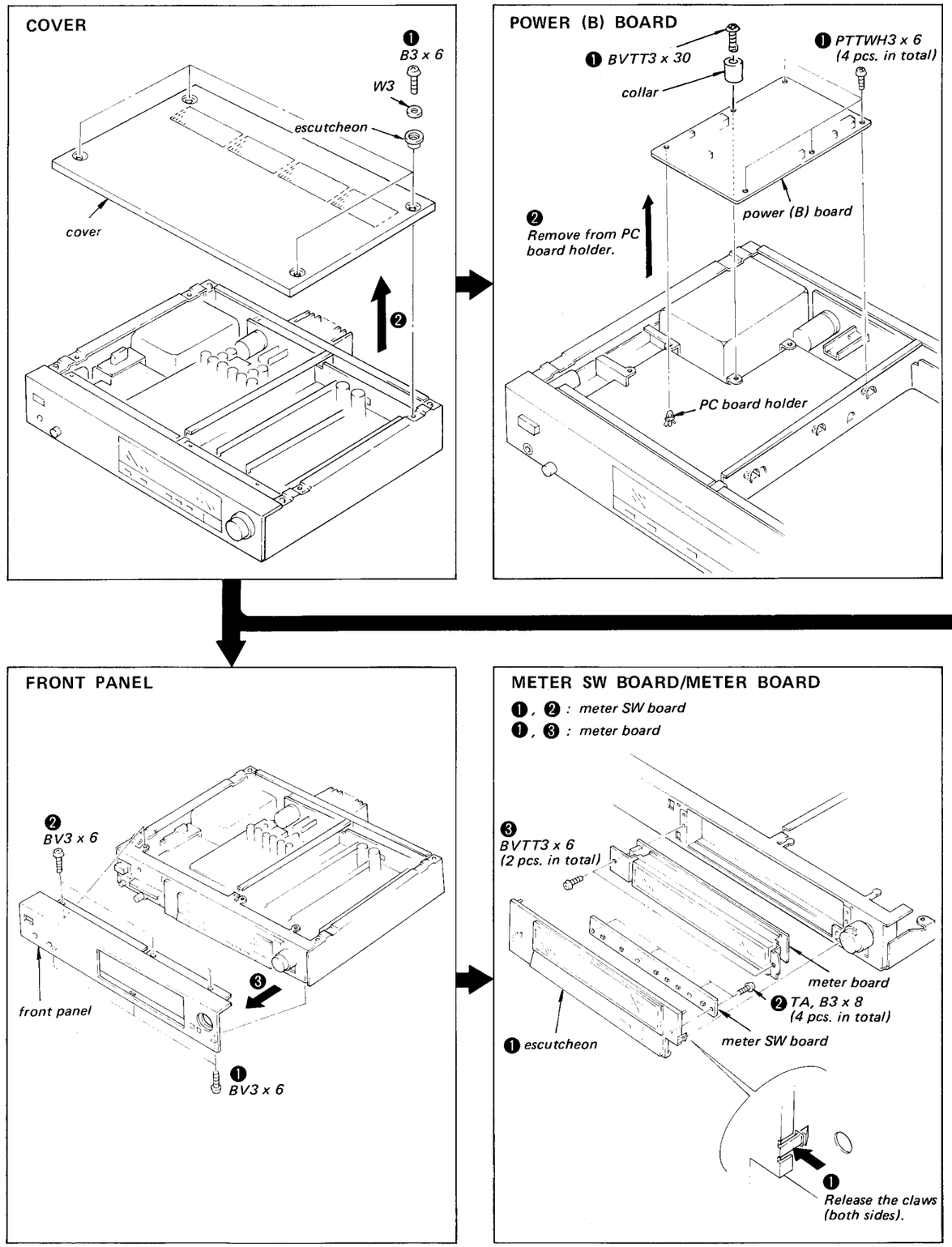

IC513
IC532
DATA
BCK (14MHz)
WCK (44kHz)
2WCK (88kHz)
EMP
DUB
DUB PROHIBIT COPY
IC506 PLAYBACK SECTION DATA PROCESSOR
RAM IC507
WD
CK2R
MUTE
EMPHASIS
COPY
REC MUTE
IC533
IC538
IC535
IC304 D/A CONVERTER
LATCH
BCLK
D IN
LRCK
WCLK
CC
I OUT
DC
BCK
DATA
WCK
2WCK
IC106 INTEGRATOR
IC206 INTEGRATOR
Q103 DISCHARGE
Q203 DISCHARGE
IC305 SWITCHING
L-CH
BUFFER AMP IC105
BUFFER AMP IC106
LOW-PASS FILTER LPF102
IC107 DE-EMPHASIS
ON
OFF
CNJ301-3 LINE (OUT)
HEADPHONE AMP IC306
S301-1 HEADPHONES (ATT dB)
J301 (HEADPHONES)
IC108 METER AMP
METER EMPHASIS SELECT Q104
D310
R-CH : SAME AS L-CH
LINE MUTE
RELAY DRIVE Q809,810
RY302 REC MUTE
PB MUTING
PEAK HOLD RESET
S706 REC MUTE
-5V
IC537
IC541
SWITCHING Q517
CNJ304-1 VIDEO OUT
COPY ON/OFF
WCK
IC538
IC539
IC541 VIDEO SIGNAL SYNTHESIZER
CLOCK GENERATOR Q519,520
X502 21.828MHz
POWER MUTE
SWITCHING Q513
REC MUT
COMP
SIFT
WHITE
DATA
IC540
VIDEO OUT AMP Q514-516
CNJ304-2 VIDEO COPY OUT
IC529
EMPHASIS SELECT
EXIT DC
88K
IC518 8 BIT SHIFT REGISTER
IC517 8BIT SHIFT REGISTER
2WCK
WCK
BCK
88k
WBC
IC508 RECORDING SECTION DATA PROCESSOR
RAM IC509
IC307
S501 REC RESOLUTION
16bit
14bit
BUS DRIVER IC534
44k
PEAK
T2 T3 REC
IC516
IC515 MONOSTABLE MULTIVIBRATOR
LED DRIVE Q511
LED DRIVE Q510
C515 MONOSTABLE MULTIVIBRATOR
WRITE SECTION MASTER CLOCK
X501 21.146MHz
OSC Q518
COPY SELECT
44k/88k DELAY CORRECTION OVER DISPLAY
IC104 A/D CONVERTER
V INT
I OUT
DATA
IC303
1/15 DIVIDER
IC522 RIPPLE LOAD
SYSTEM RESET PULSE
IC521
IC539
A B CK SHIFT REGISTER
IC523
PAL/SECAM
NTSC
1/8 DIVIDER
IC516
IC519
IC520
IC537
POWER ON RESET TIMING CORRECTION
1.4M
2.6M
RY303 LINE MUTE
RY801 POWER MUTE
RELAY DRIVE Q813
RELAY DRIVE Q816
SWITCHING Q815
SWITCHING Q817
DB15
DB14
AC DET DB816,817
T1301
VOLT REG. Q1001 IC1001
RECT DB19-822 DB33,834
VOLT REG. Q401-410 IC401
VOLT REG. IC803,805
VOLT REG. Q819
D829
DB24-827
S1301 POWER
AC IN
(APPLY TO PAL/SECAM SYSTEM)
1/250 DIVIDER
IC555
IC522 SYNC PRESETTABLE UP/DOWN 4 BIT COUNTER
IC551 CARRY OUT SYNC PRESETTABLE UP/DOWN 4 BIT COUNTER
IC554
IC553
VOLT REG. Q1201
IC550 PHASE COMP PLL VCO
1/252 DIVIDER
RT801 PEAK METER (L)
RT802 PEAK METER (R)
IC801 LOG AMP
BUFFER Q801
BUFFER Q802
IC802 SWITCH
RT803 TRACKING LEVEL
LEVEL INTERFACE Q805,806
DB11
SWITCHING Q807
RELAY DRIVE Q808
RY301 DE-EMPHASIS
SWITCHING Q822
SWITCHING Q702
LED DRIVE Q701
LED DRIVE Q703
D705 (COPY)
D706 (PB MUTING)
IC602 VOLTAGE COMPARATOR
IC601 DISPLAY TUBE CONTROL
L INPUT
R INPUT
CLOCK OSC
CF601 4MHz
RESET
D/A CONVERTOR IC603
SWITCHING Q803,804
IC604
S702 (AUTO)
S704 (MANUAL)
S703 COPY
S701 METER (TRACKING LEVEL)
D702
D704
D703
D701
D832
D831
FL TUBE DRIVE Q601,602
FL TUBE DRIVE Q603,604
FL TUBE DRIVE Q605
FL TUBE DRIVE Q606
FL601 FLUORESCENT INDICATOR TUBE
(G3,G4)
(G2) -dB ~0
(-dB)
RES 16bit
RES 14bit
L,R
TRACKING
COPY PROHIBITING
OVER L
OVER R
PB MUTING
EMPHASIS
REC MUTE
(FILAMENT)
2,3,5,6,8,9,11,12,25-42,44-51,56-57,59,60

1-2. CIRCUIT BOARD LOCATION



SECTION 2
DISASSEMBLY

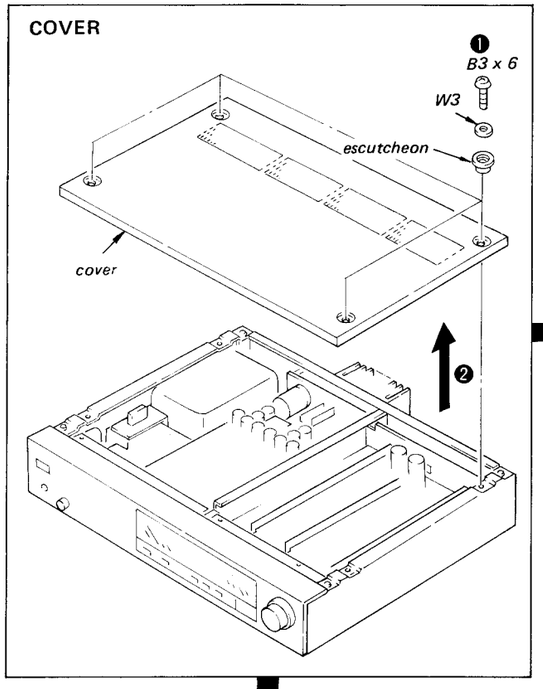
Note: Follow the disassembly procedure in the numerical order given.



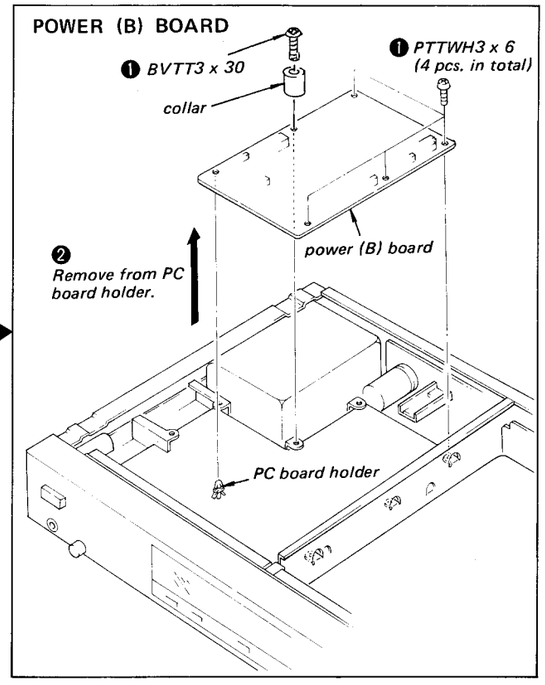
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

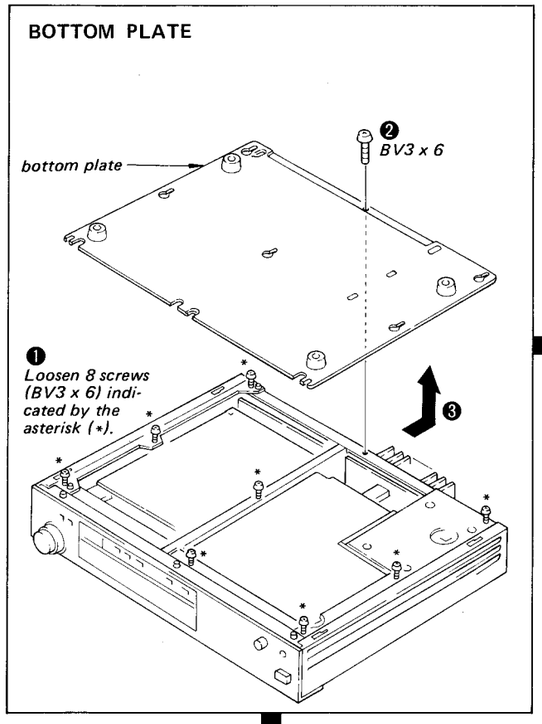
COVER



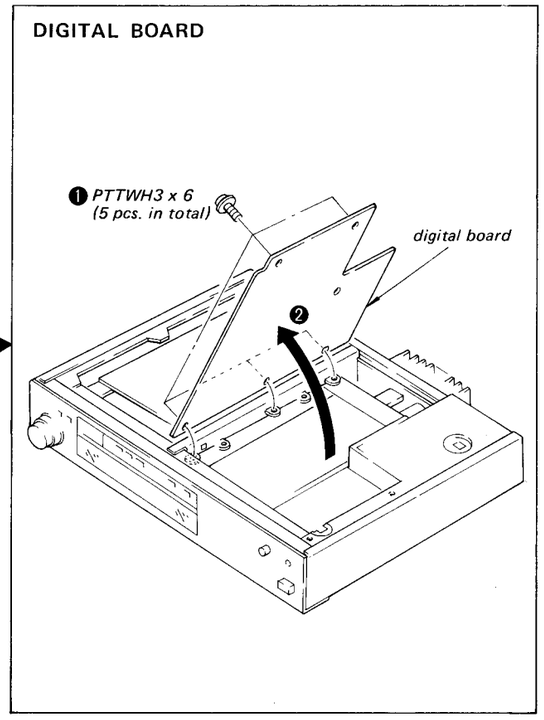
POWER (B) BOARD



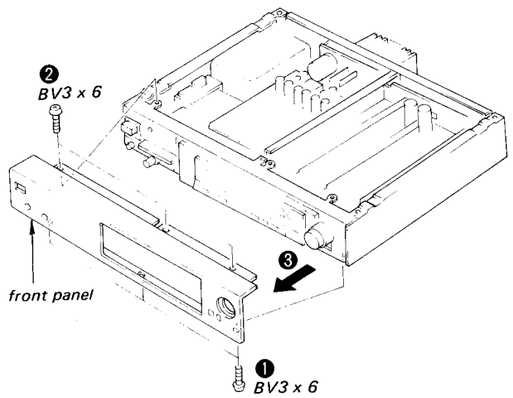
BOTTOM PLATE



DIGITAL BOARD

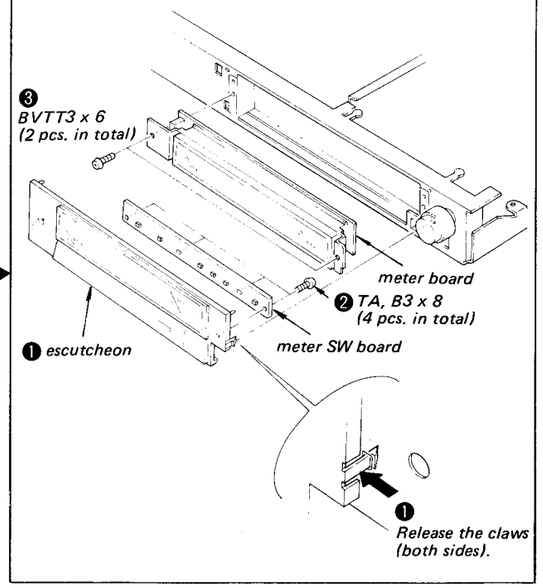


FRONT PANEL



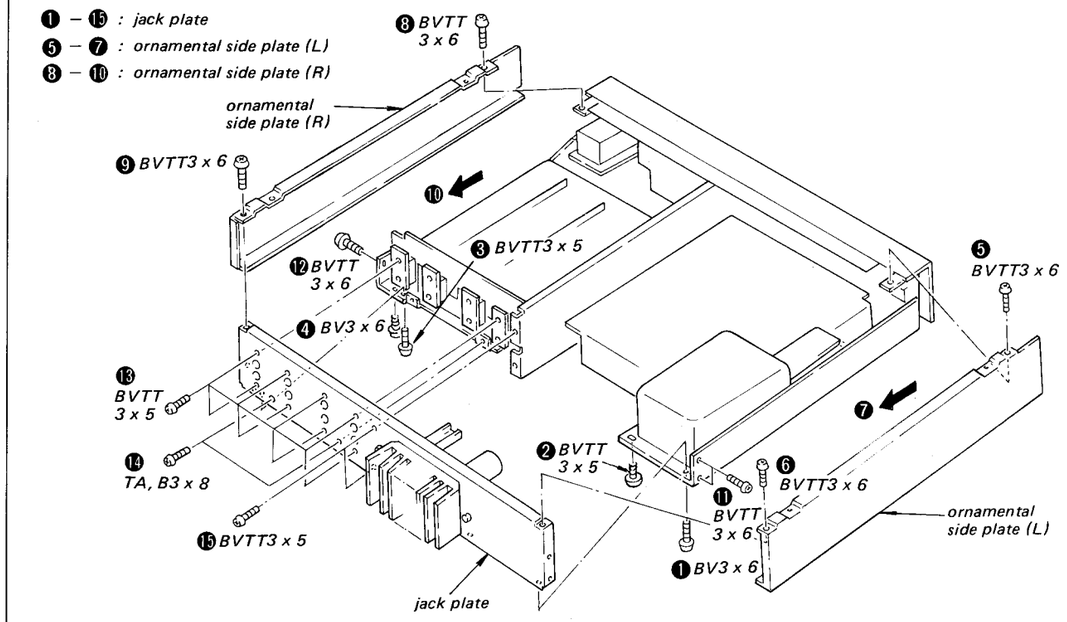
METER SW BOARD/METER BOARD

❶, ❷ : meter SW board
❶, ❸ : meter board



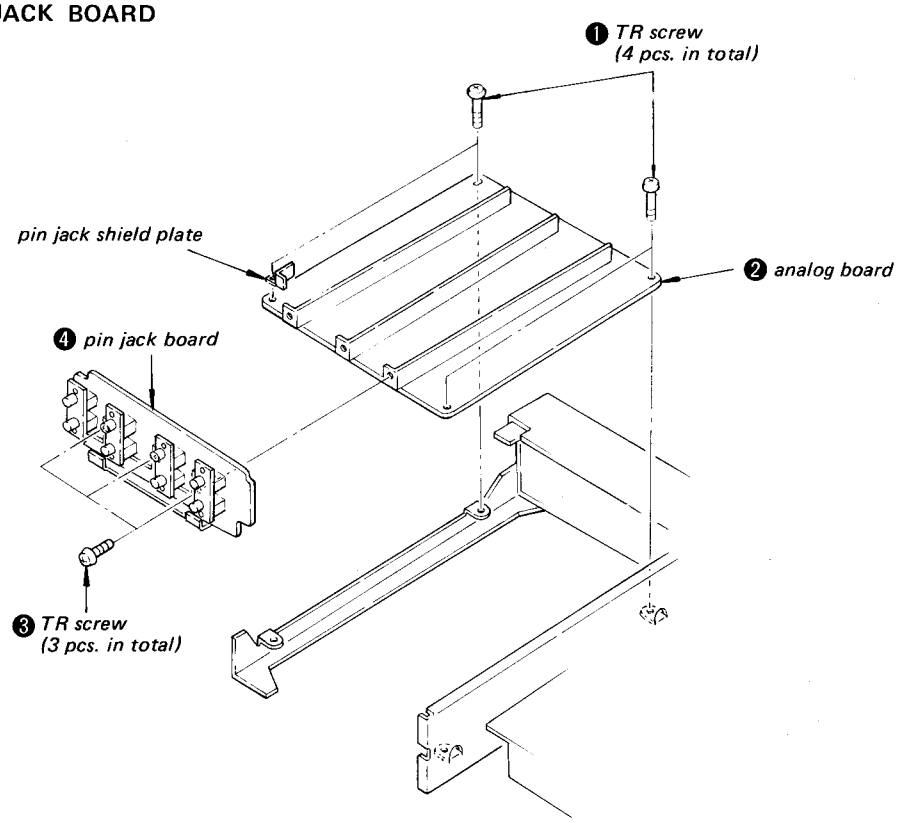
ORNAMENTAL SIDE PLATE/JACK PLATE

❶ – ❺ : jack plate
❺ – ❼ : ornamental side plate (L)
❽ – ❿ : ornamental side plate (R)

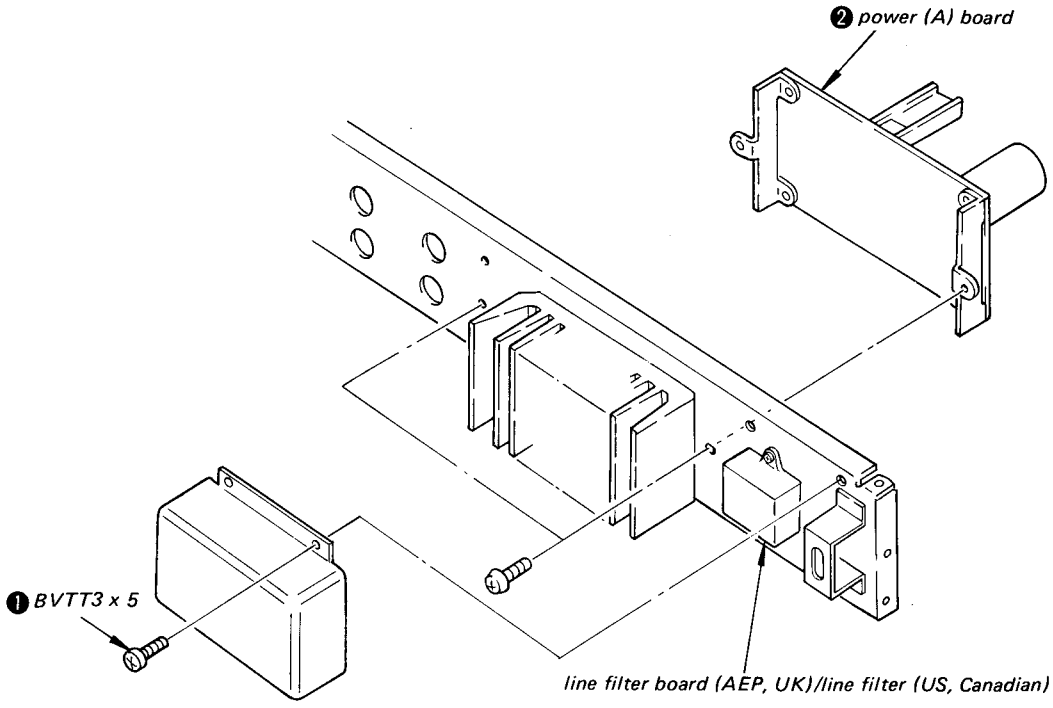


ANALOG BOARD/PIN JACK BOARD

❶, ❷ : *analog board*
❸, ❹ : *pin jack board*



POWER (A) BOARD
LINE FILTER BOARD (AEP, UK)/LINE FILTER (US, Canadian)



SECTION 3
ELECTRICAL ADJUSTMENTS

· Switch position (Except other notice)
PB MUTING ····· OFF
COPY ····· OFF
METER ····· LEVEL
REC RESOLUTION ····· 16BIT
HEADPHONES ATT ····· 0 dB

· E-E mode : VIDEO-IN and VIDEO-OUT terminals are connected.

Reference input level

Input terminal	LINE IN	VIDEO IN
Source impedance	10kΩ	75Ω
Signal input level	0.25V(−10dB)	1 V

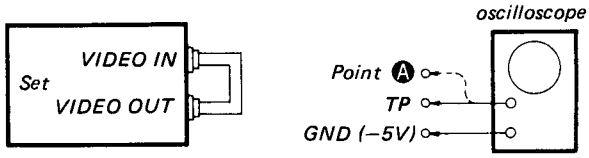
Reference output level

Output terminal	LINE OUT	VIDEO OUT
Load impedance	47kΩ	75Ω
Signal output level	0.25V(−10dB)	1 V

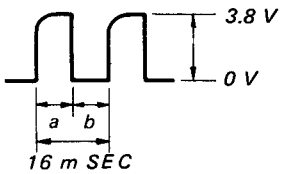
Make an adjustment after turning POWER ON more than half an hour so that the drift by temperature rise is avoided.

VCO ADJUSTMENT

Procedure:

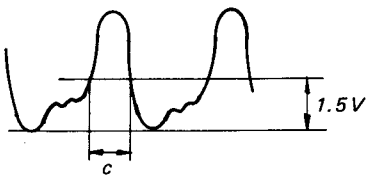


1. Connect VIDEO IN and VIDEO terminals (E-E mode).
2. Connect the oscilloscope to the VCO check point and GND point.
3. Adjust L505 so that duty ratio is 50%.



duty ratio 50% : a/b = 1/1

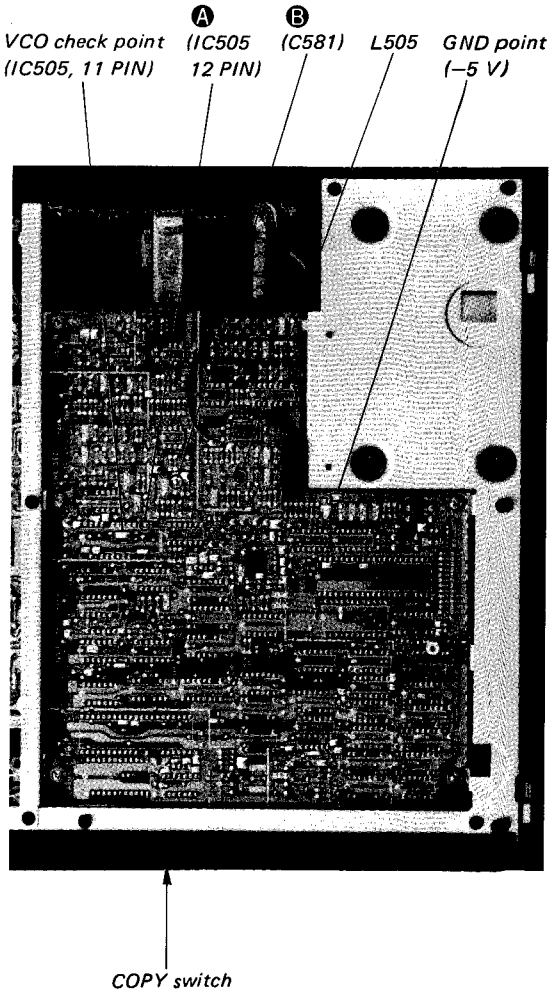
4. Turn the COPY switch to OFF→ON→OFF and then confirm the duty ratio is 50%.
5. Connect the oscilloscope to the point Ⓐ and GND point.
6. Confirm the duty ratio is as shown below.



c : less than 0.02μ SEC

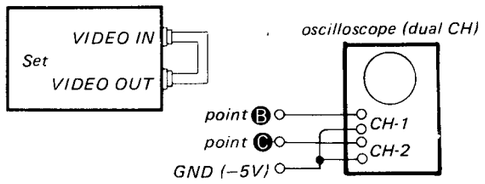
7. If c is 0.02 μ Sec or more, solder the point Ⓑ (C581 is connected).

Adjustment Location:
– DIGITAL board –

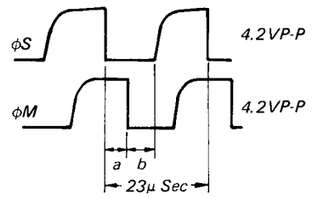


PAL CLOCK ADJUSTMENT (Only PAL/SECAM system)

Procedure :



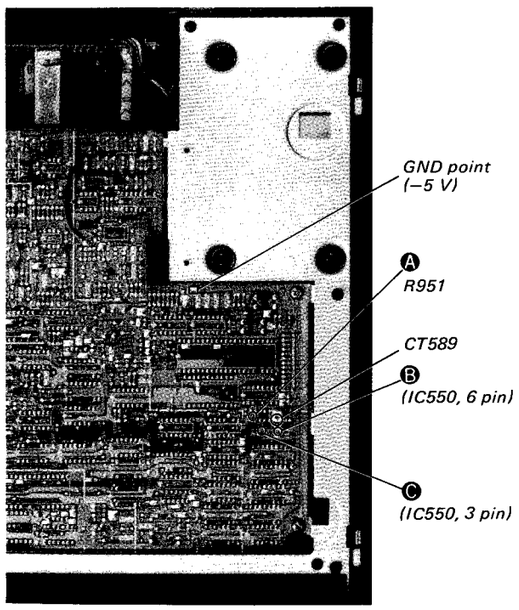
1. Connect VIDEO IN and VIDEO OUT terminals (E-E mode).
2. Solder the point Ⓐ (R951 is connected).
3. Connect the oscilloscope to the point Ⓑ (IC550, 6 pin) and point Ⓒ (IC550, 3 pin).
4. Adjust CT589 so that the phase difference is 90°.



phase difference 90° : a/b = 1/1

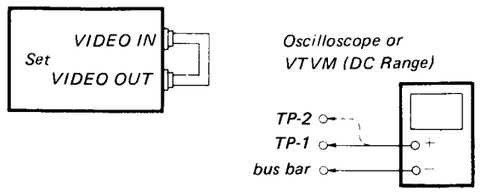
5. Unsolder the point Ⓐ (R951)

Adjustment Location :
– DIGITAL board –



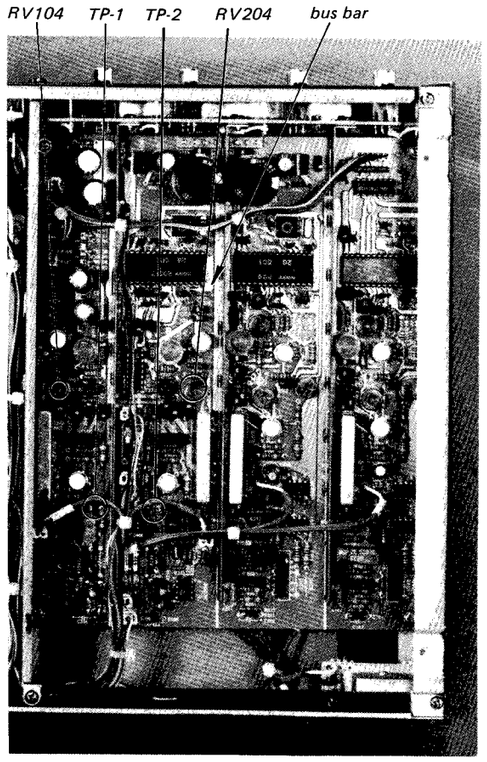
D/A OFFSET ADJUSTMENT

Procedure :



1. Connect VIDEO-IN and VIDEO-OUT terminals (E-E MODE).
2. Connect the oscilloscope or VTVM (DC Range) to the test point TP-1 (L-CH)/TP-2 (R-CH) and the bus bar (earth point).
3. Adjust RV104 (L-CH)/RV204 (R-CH) with pressing the REC MUTE button for 0±10 mV (DC) reading on oscilloscope or VTVM.

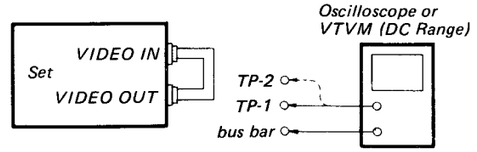
Adjustment Location :
– ANALOG board –



A/D OFFSET ADJUSTMENT

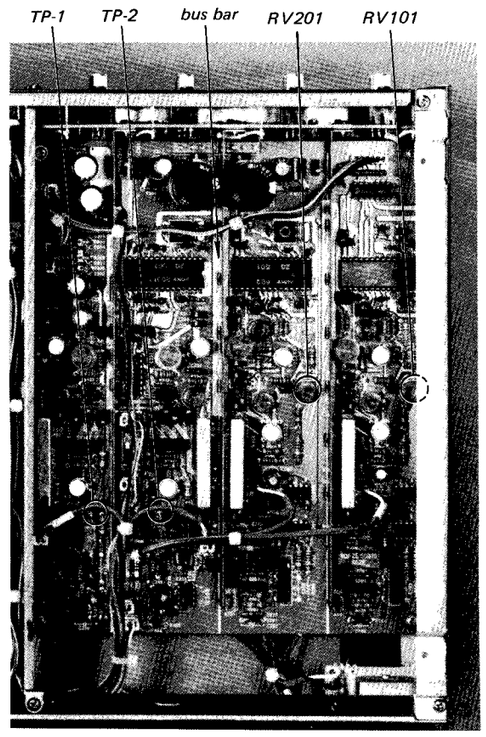
A/D OFFSET ADJUSTMENT should be made later than that of D/A OFFSET

Procedure:



1. Connect VIDEO-IN and VIDEO-OUT TERMINALS (E-E MODE).
2. Connect the oscilloscope or VTVM (DC Range) to the test point TP-1 (L-CH), TP-2 (R-CH), and the bus bar (earth point).
3. Turn the REC LEVEL knobs to the minimum (0).
4. Adjust RV101 (L-CH)/RV201 (R-CH) for –10±5 mV (DC) reading on oscilloscope or VTVM.

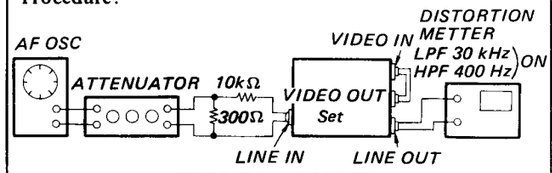
Adjustment Location:
– ANALOG board –



A/D DISTORTION ADJUSTMENT

The low distortion AF OSC and the low distortion measurement equipment are needed to make this adjustment.

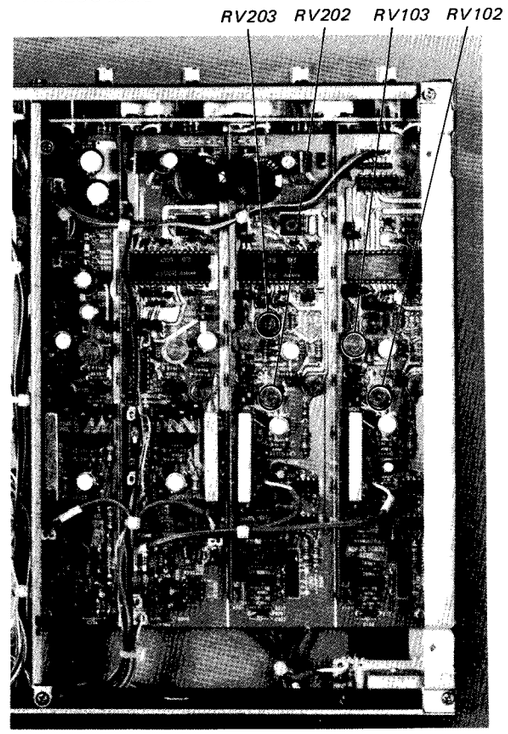
Procedure:



1. Connect VIDEO-IN and VIDEO-OUT terminals (E-E mode).
2. Apply a 1 kHz, 0 dB (0.775V) to the LINE IN terminals.
3. Adjust the REC LEVEL knobs so that OVER of the level meters just light up.
4. Decrease the input signal level from 0.5 to 1 dB with the attenuator, and confirm OVER of that goes out.
5. Adjust RV102, 103 (L-CH)/RV202, 203 (R-CH) for minimum reading on distortion meter.

- reference data
  distortion . . . . . less than –85 dB

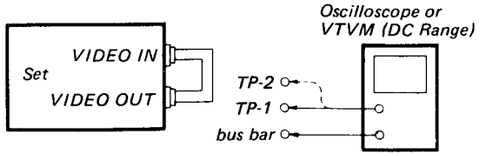
Adjustment Location:
– ANALOG board –



A/D OFFSET ADJUSTMENT

A/D OFFSET ADJUSTMENT should be made later than that of D/A OFFSET

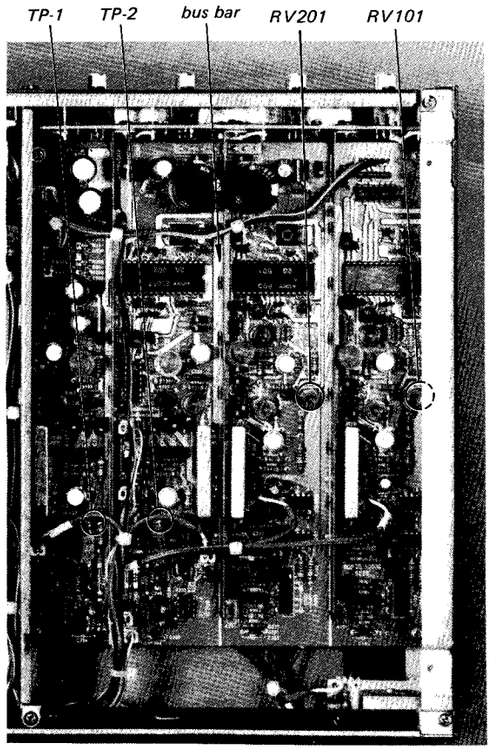
Procedure:



1. Connect VIDEO-IN and VIDEO-OUT TERMINALS (E-E MODE).
2. Connect the oscilloscope or VTVM (DC Range) to the test point TP-1 (L-CH), TP-2 (R-CH), and the bus bar (earth point).
3. Turn the REC LEVEL knobs to the minimum (0).
4. Adjust RV101 (L-CH)/RV201 (R-CH) for −10±5 mV (DC) reading on oscilloscope or VTVM.

Adjustment Location:

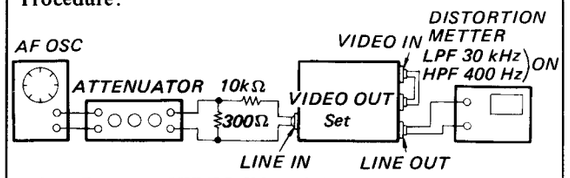
– ANALOG board –



A/D DISTORTION ADJUSTMENT

The low distortion AF OSC and the low distortion measurement equipment are needed to make this adjustment.

Procedure:

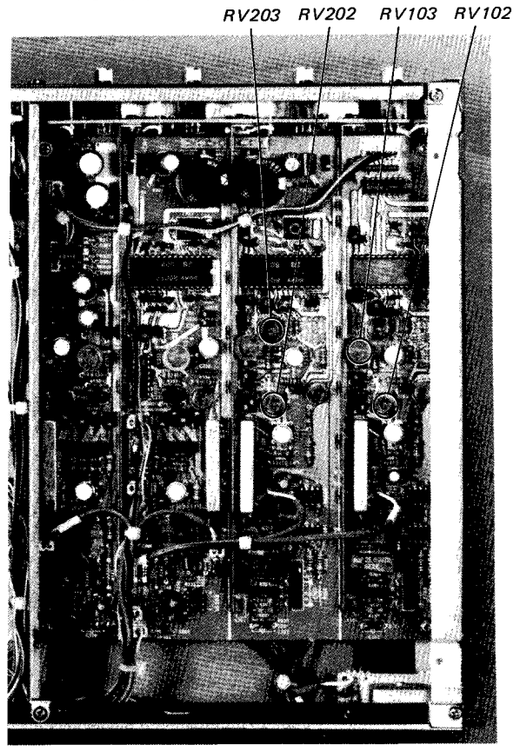


1. Connect VIDEO-IN and VIDEO-OUT terminals (E-E mode).
2. Apply a 1 kHz, 0 dB (0.775V) to the LINE IN terminals.
3. Adjust the REC LEVEL knobs so that OVER of the level meters just light up.
4. Decrease the input signal level from 0.5 to 1 dB with the attenuator, and confirm OVER of that goes out.
5. Adjust RV102, 103 (L-CH)/RV202, 203 (R-CH) for minimum reading on distortion meter.

- reference data
  distortion . . . . . less than −85 dB

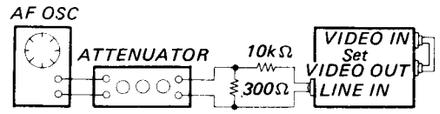
Adjustment Location:

– ANALOG board –



PEAK METER ADJUSTMENT

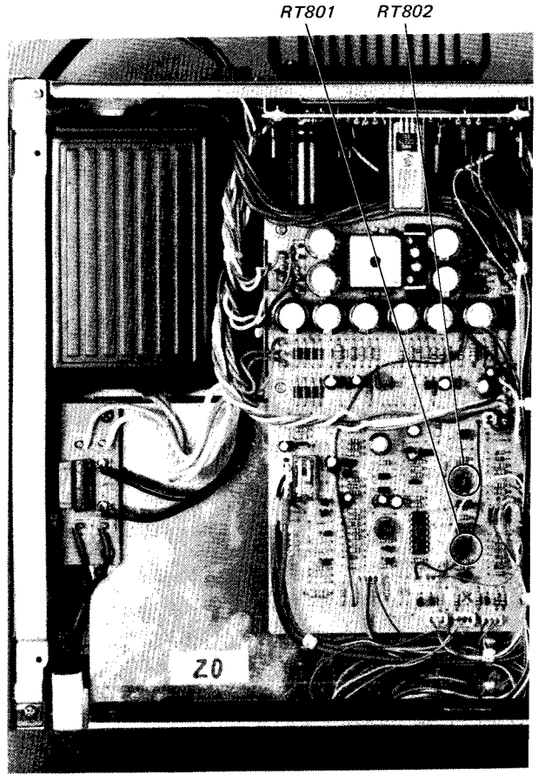
Procedure:



1. Connect VIDEO IN and VIDEO OUT terminals (E-E mode).
2. Apply a 1kHz, 0dB (0.775V) to the LINE IN terminals.
3. Adjust the REC LEVEL knobs so that OVER of the level meters just light up.
4. Decrease the input signal level from 0.5 to 1dB with the attenuator, and confirm OVER of that goes out.
5. Adjust RT801 (L-CH)/RT802 (R-CH) so that the level meters just illuminate 0 dB.

Adjustment Location:

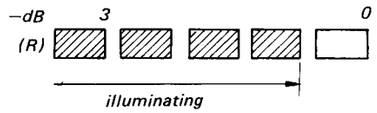
– POWER SUPPLY board –



TRACKING LEVEL ADJUSTMENT

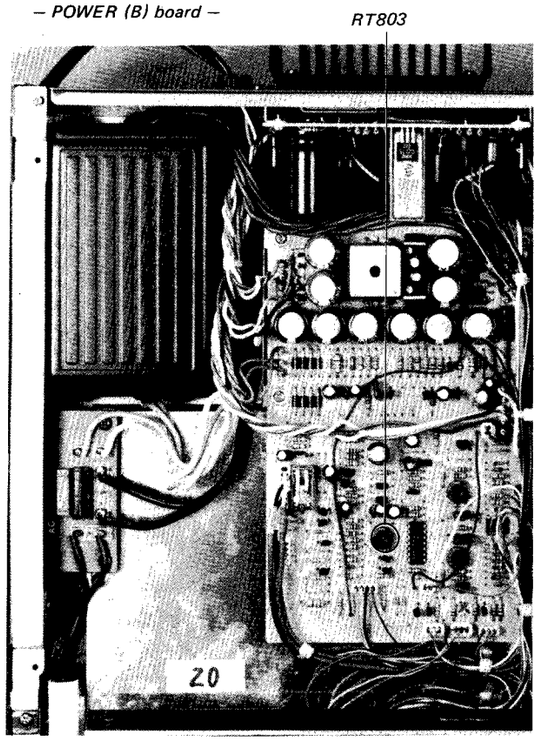
Procedure:

1. Connect VIDEO IN and VIDEO OUT terminal (E-E mode).
2. Press the METER selector button.
3. Confirm the TRACKING indicator illuminates and the level meter illuminates only R-CH.
4. Adjust RT803 so that the level meter illuminates as shown below.



Adjustment Location :

– POWER (B) board –



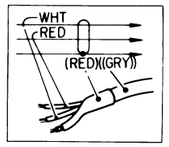
SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM – ANALOG SECTION –

- Semiconductor Lead Layouts: See page 42.
- Circuit Board Location: See page 18.

Note:

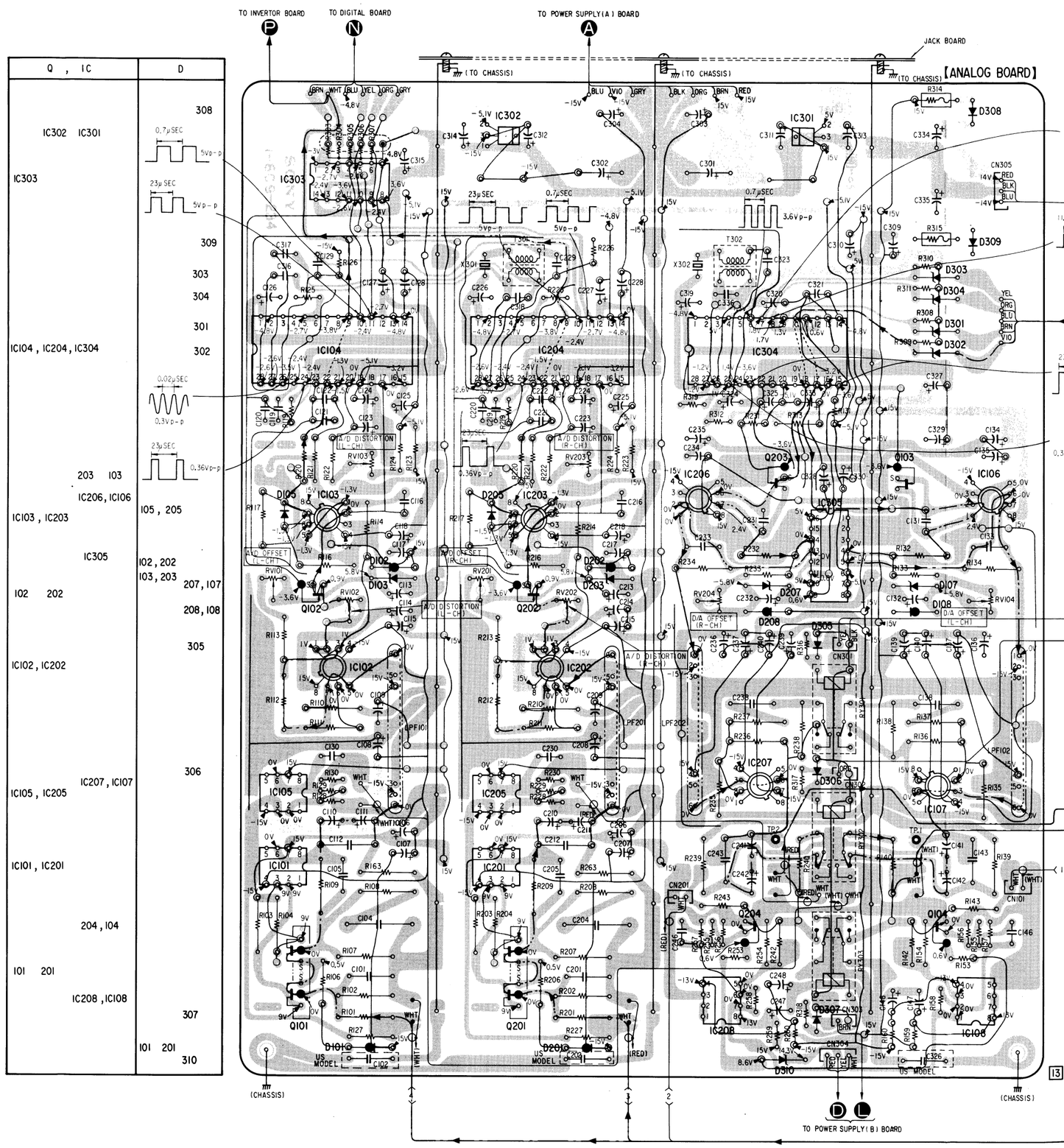
- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ○—○ : pattern connection on the component side.
- ▒ : B + pattern

- ▬▶▬ : signal path
- ▬·▬▶ : L-CH signal path
- ▬··▬▶ : R-CH signal path

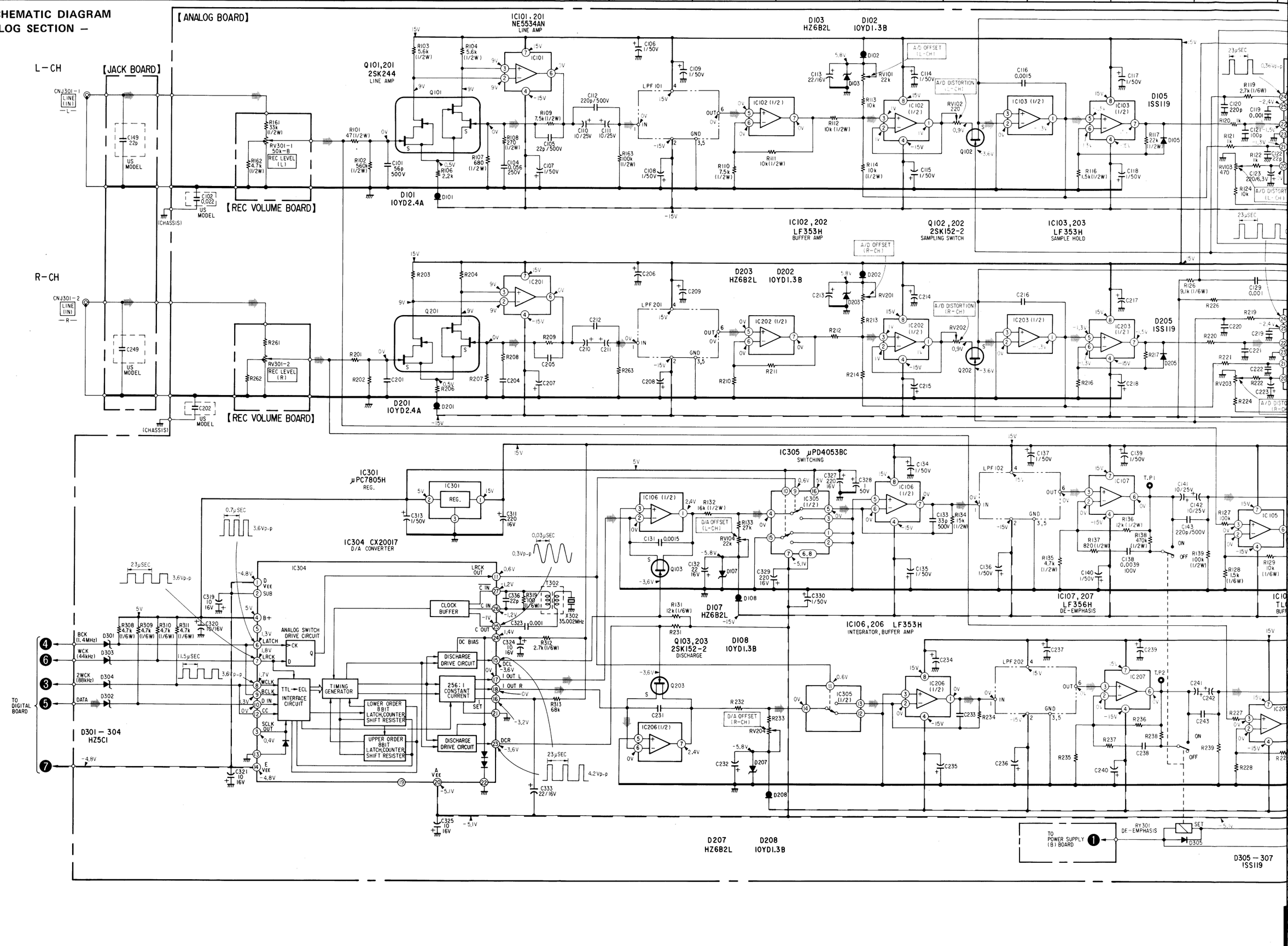
Q , IC	D
	308
IC302 IC301	0.7μSEC 5Vp-p
IC303	23μSEC 5Vp-p
	309
	303
	304
	301
IC104 , IC204 , IC304	302
	0.02μSEC 0.3Vp-p
	23μSEC 0.36Vp-p
203 103 IC206 , IC106	
IC103 , IC203	105 , 205
IC305	102 , 202
102 202	103 , 203 207 , 107
	208 , 108
	305
IC102 , IC202	
	306
IC207 , IC107 IC105 , IC205	
IC101 , IC201	
	204 , 104
101 201	
IC208 , IC108	
	307
101 201	310

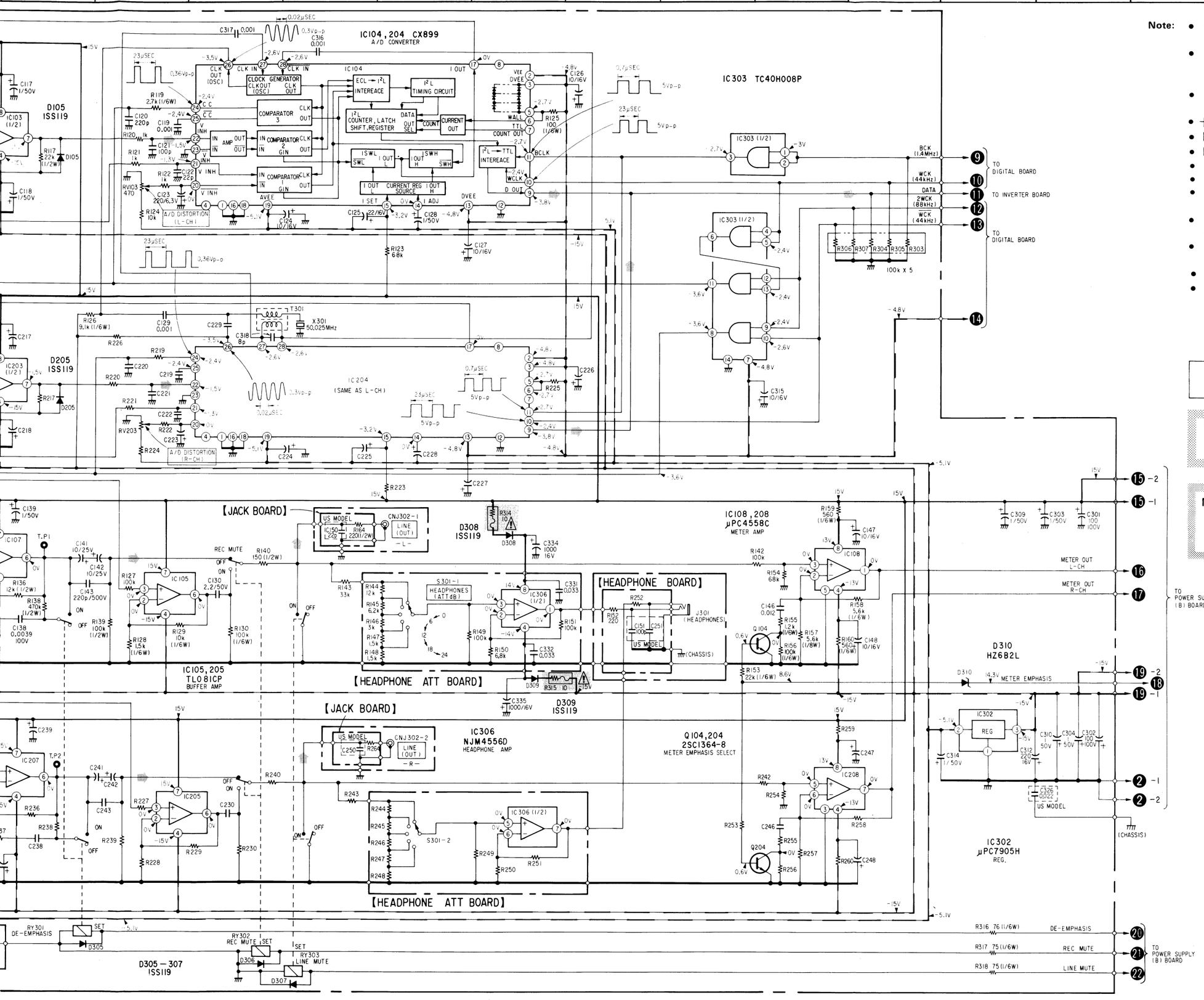


Q , IC	D
	308
IC302 IC301	0.7μSEC 5Vp-p
IC303	23μSEC 5Vp-p
	309
	303
	304
	301
IC104 , IC204 , IC304	302
	0.02μSEC 0.3Vp-p
	23μSEC 0.36Vp-p
203 103 IC206, IC106	105 , 205
IC103 , IC203	
IC305	102 , 202
	103 , 203 207 , 107
102 202	208 , 108
	305
IC102 , IC202	
	306
IC207 , IC107 IC105 , IC205	
IC101 , IC201	
204 , 104	
101 201	
IC208 , IC108	307
101 201	310

TO INVERTOR BOARD (P)
TO DIGITAL BOARD (N)
TO POWER SUPPLY(A) BOARD (A)
JACK BOARD
【ANALOG BOARD】
【HEADPHONE ATT BOARD】
【HEADPHONE BOARD】
【REC VOLUME BOARD】
TO DIGITAL BOARD
TO POWER SUPPLY (B) BOARD
TO JACK BOARD
TO POWER SUPPLY(B) BOARD
(CHASSIS)
US MODEL
J301 (HEADPHONES)
S301 HEADPHONES (ATT dB)
RV301-1,2 REC LEVEL

4-2. SCHEMATIC DIAGRAM
– ANALOG SECTION –





Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- : fusible resistor.
- : panel designation.
- : adjustment for repair.
- ——— : B+ bus.
- – – – : B– bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (E-E mode) conditions with a VOM (50 kΩ/V).
- Voltage/waveform are measured with a wide-band oscilloscope.
- : signal path
- Switch

Ref. No.	Switch	Position
S301	HEADPHONES (ATT dB)	0 dB

Note: Voltages are measured with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

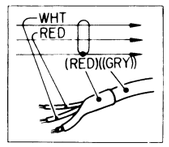
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-3. MOUNTING DIAGRAM
– DIGITAL BOARD –

- Semiconductor Lead Layouts: See page 42.
- Circuit Board Location: See page 18.

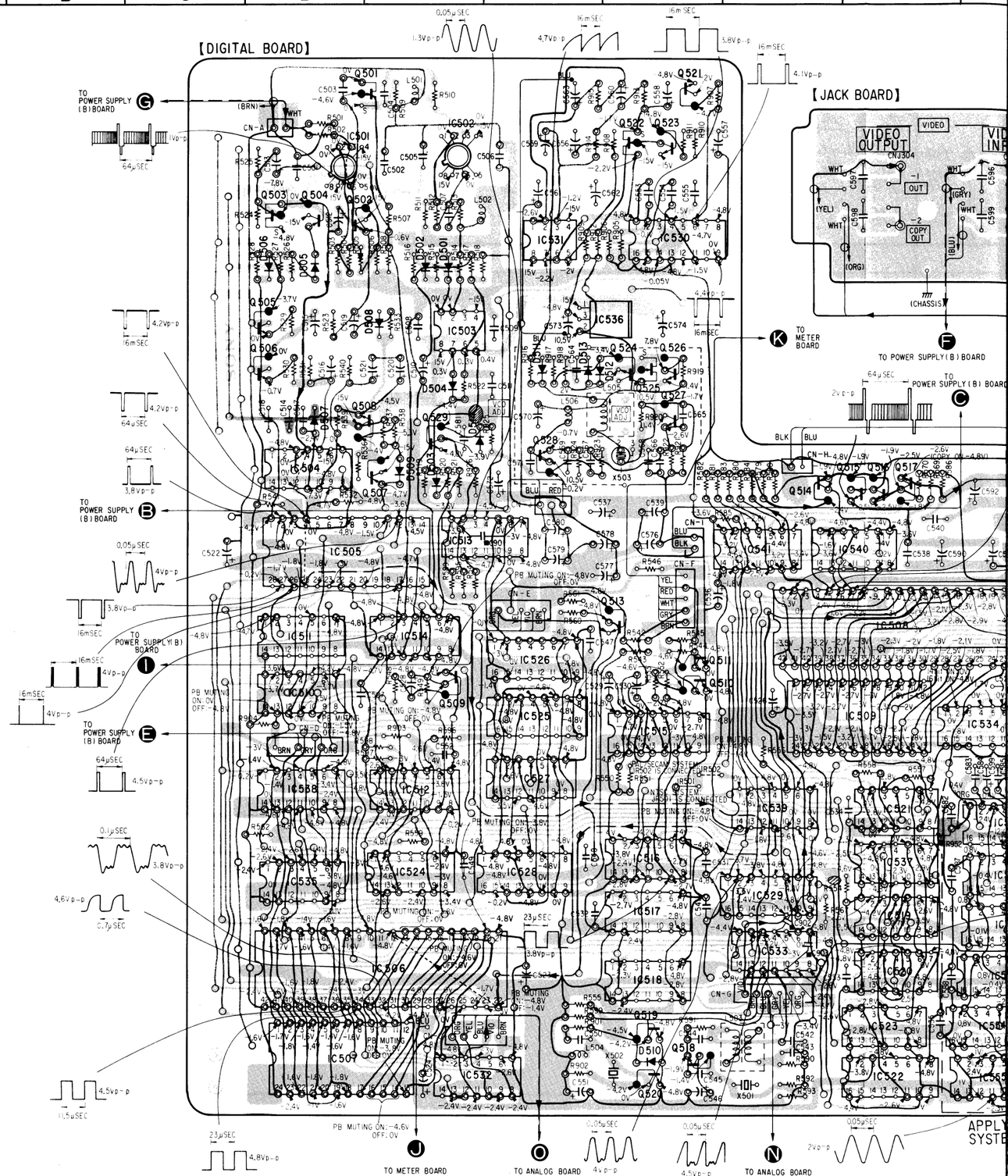
Note:

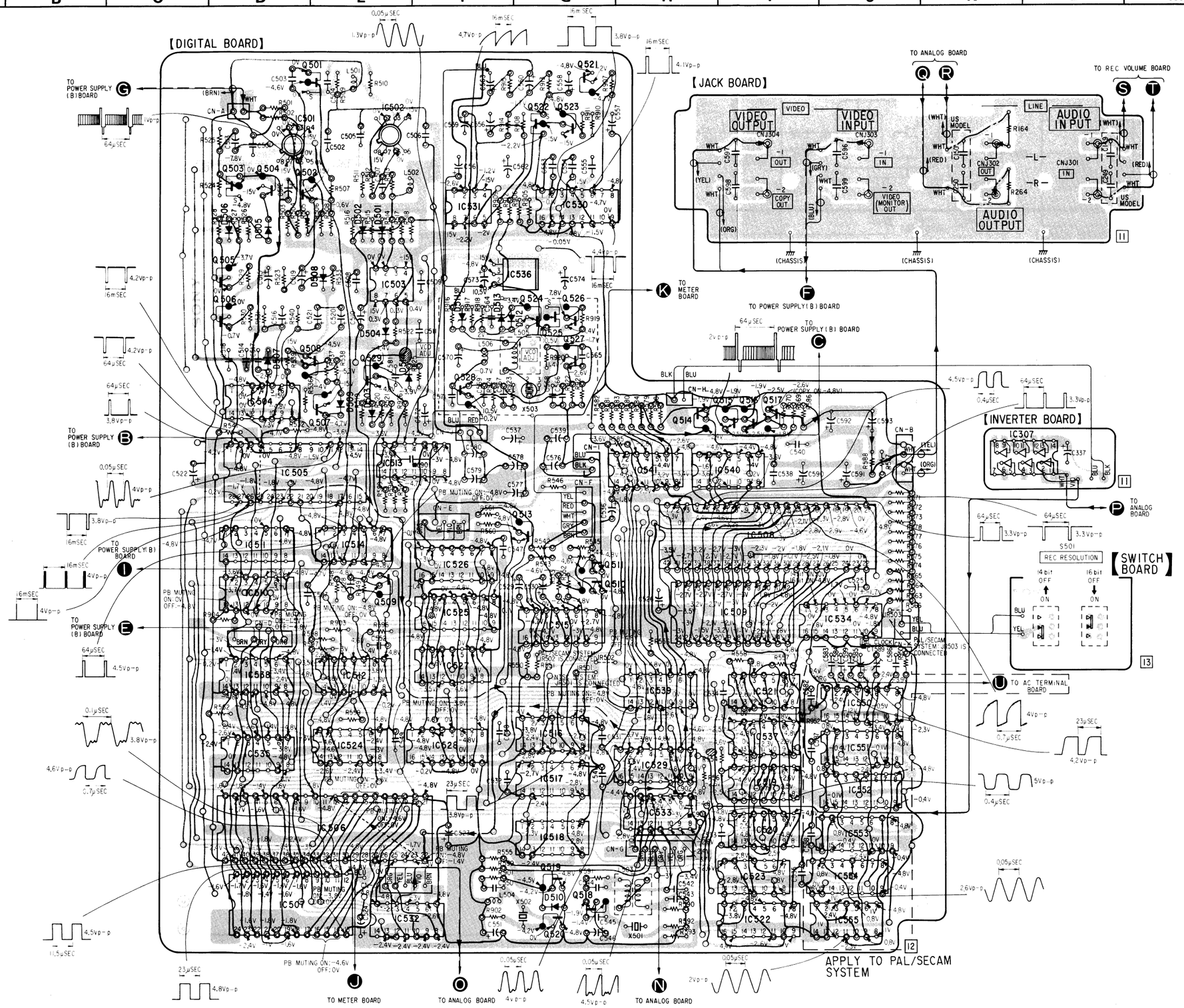
- Color code of sleeving over the end of the jacket.



- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- C○—○C : pattern connection on the component side.
- ▒▒ : B + pattern

- ▬▶▬ : signal path
- ▬·▶ : L-CH signal path
- ▬··▶ : R-CH signal path





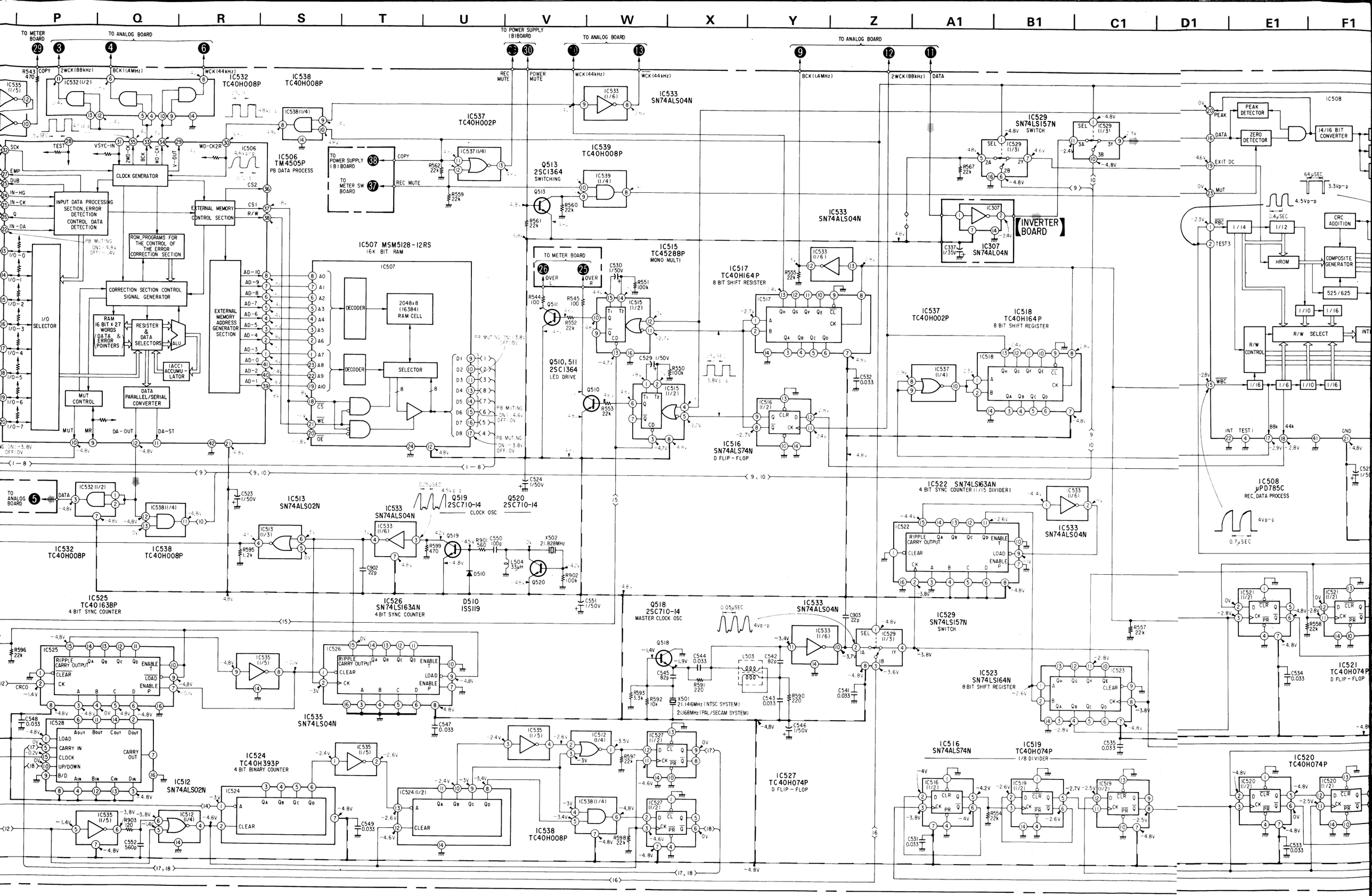
Q , IC	D
501 521	
522,523 IC502 IC501	
503,504,502 IC531 , IC530	
	505,502,501 506
505 IC536 IC503	508
506 524,525,526	511,513,512 504
508 , 529 527 528 IC504 , 507 514 , 515 , 516 , 517	507 514
	509 503
IC513 IC307 IC505 IC541 , IC540	
513 IC508 IC511 , IC514 IC526 , 511	
509 510 IC510 IC525 IC509 IC515 IC534	
IC527 IC538 IC512 IC539 , IC521	
IC550 IC516 IC537 IC524 , IC528 IC551 IC535 IC529 IC517 IC519 IC552 IC533 IC506 IC520 IC518 IC553	
519 IC523 IC554 518 IC507 IC532 520 IC522 IC555	510

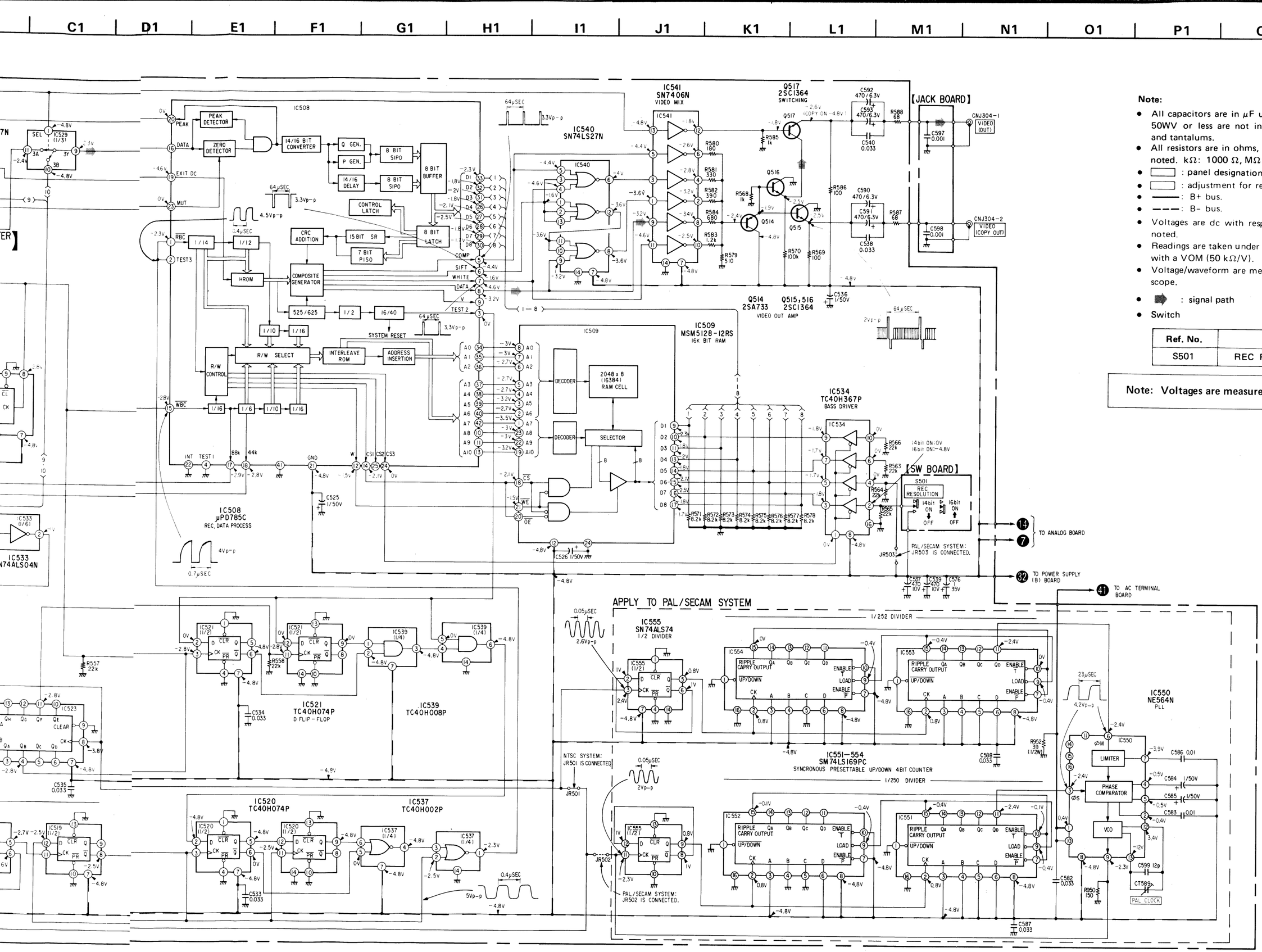
Q , IC D

4-4. SCHEMATIC DIAGRAM — DIGITAL BOARD —

【DIGITAL BOARD】

IC501 LF357H VIDEO AMP
Q501 2SK121-2 SWITCHING
IC502 LF357H TRACKING AMP
IC503 LF353H RECT INTEGRATOR
D501,502 ISS119
D503,504 ISS119
D505,506 ISS119
D507 HZ7B2L
D508,509 ISS119
IC504 μPC319C DATA SEPARATOR
IC505 CX7914 PLAYBACK SECTION SYNC SEPARATOR
IC514 TC40H032P
IC511 TC4024BP 7 BIT BINARY COUNTER
IC512 SN74ALS02N
IC513 SN74ALS02N
IC510 SN74ALS74N D FLIP-FLOP
IC538 TC40H008P
IC535 SN74LS04N
IC533 SN74ALS04N
IC539 TC40H008P
IC512 SN74ALS02N
IC528 TC4029BP UP/DOWN COUNTER
IC536 μPC78L15 VOLT REG.
IC530 TC4528BP MONO MULTI
IC531 TL072CP SAMPLE HOLD
Q502 2SC1364 BUFFER
Q503 2SK121-2 SWITCHING
Q504 2SA733 CLAMP
Q505,506 2SC1364 LEVEL CONTROL
Q507 2SA733 CLAMP
Q508 2SC1364 —
Q509 2SC1364 MUTING
Q521,523 2SC1364 SWITCHING
Q522 2SK107-3 SWITCHING
Q525 2SK120-2 CUR REG.
Q526 2SC1364 VOLT REG.
Q527 2SC710-14 VCO
Q528,529 2SC710-14 BUFFER
D511 FC54M
D512,513 ISS119
D514 ISS119
Q524 2SC1129 ZENNER
X503
L505
L501 100μH
L502 100μH
L506 33μH
TO POWER SUPPLY (B) BOARD
TO METER BOARD
TO ANALOG BOARD
TO METER SW BOARD
I/O SELECTOR


P Q R S T U V W X Y Z A1 B1 C1 D1 E1 F1
TO METER BOARD
TO ANALOG BOARD
TO POWER SUPPLY (B) BOARD
TO METER SW BOARD
TO ANALOG BOARD
TO ANALOG BOARD
IC532 TC40H008P
IC538 TC40H008P
IC537 TC40H002P
IC533 SN74ALS04N
IC539 TC40H008P
IC529 SN74LS157N SWITCH
IC533 SN74ALS04N
IC506 TM4505P PB DATA PROCESS
CLOCK GENERATOR
INPUT DATA PROCESSING SECTION, ERROR DETECTION CONTROL DATA DETECTION
EXTERNAL MEMORY CONTROL SECTION
ROM, PROGRAMS FOR THE CONTROL OF THE ERROR CORRECTION SECTION
CORRECTION SECTION CONTROL SIGNAL GENERATOR
EXTERNAL MEMORY ADDRESS GENERATOR SECTION
RAM 16 BIT x 27 WORDS (DATA & ERROR POINTERS)
RESISTER & DATA SELECTORS
ALU
(ACC) ACCUMU-LATOR
I/O SELECTOR
MUT CONTROL
DATA PARALLEL/SERIAL CONVERTER
IC507 MSM5128-12RS 16K BIT RAM
DECODER
DECODER
2048x8 (16384) RAM CELL
SELECTOR
IC515 TC4528BP MONO MULTI
Q513 2SC1364 SWITCHING
Q510, 511 2SC1364 LED DRIVE
IC517 TC40H164P 8 BIT SHIFT RESISTER
IC516 SN74ALS74N D FLIP-FLOP
IC518 TC40H164P 8 BIT SHIFT REGISTER
IC307 SN74AL04N
INVERTER BOARD
IC508 μPD785C REC, DATA PROCESS
PEAK DETECTOR
ZERO DETECTOR
14/16 BIT CONVERTER
CRC ADDITION
COMPOSITE GENERATOR
HROM
525/625
R/W CONTROL
R/W SELECT
IC513 SN74ALS02N
IC533 SN74ALS04N
Q519 2SC710-14 CLOCK OSC
Q520 2SC710-14
IC525 TC40163BP 4 BIT SYNC COUNTER
IC526 SN74LS163AN 4 BIT SYNC COUNTER
D510 ISS119
IC522 SN74LS163AN 4 BIT SYNC COUNTER (1/15 DIVIDER)
IC523 SN74LS164N 8 BIT SHIFT REGISTER
IC521 TC40H074P D FLIP-FLOP
Q518 2SC710-14 MASTER CLOCK OSC
IC528
IC512 SN74ALS02N
IC524 TC40H393P 4 BIT BINARY COUNTER
IC535 SN74LS04N
IC538 TC40H008P
IC527 TC40H074P D FLIP-FLOP
IC516 SN74ALS74N
IC519 TC40H074P 1/8 DIVIDER
IC520 TC40H074P



Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6 W or 1/4 W unless otherwise noted. kΩ: 1000 Ω, MΩ: 1000 kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- – – – : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (E-E mode) conditions with a VOM (50 kΩ/V).
- Voltage/waveform are measured with a wide-band oscilloscope.
- ➡ : signal path
- Switch

Ref. No.	Switch	Position
S501	REC RESOLUTION	14 bit

Note: Voltages are measured with a VOM (50kΩ/V).

• Semiconductor Lead Layouts

CX7914
CX899
CX20017
μPC319C
μPC4558C
μPD785C
μPD4053BC
MSL915RS
MSM5128
NE564N
NE5534P
NJM2903D
NJM4556D
μPC4557C
SN74ALS02N
SN74ALS04N
SN74LS04N
SN74LS27N
SN74ALS74N
SN74LS157N
SN74LS163AN
SN74LS164N
SN7406N
TC40H002P
TC40H008P
TC40H032P
TC40H074P
TC40H164P
TC40H367P
TC40H393P
TC40163BP
TC4024BP
TC4029BP
TC4066BP
TC4069UBP
TC4528BP
TM4505P
TL072CP
TL081CP
74LS169PC

line or slit or dot — n+1 — 1 2 — n

(Top view)

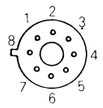
μPC78L15

OUT GND IN (2 3 1)

μPC7905H
NJM-79M15A

COMMON (1) IN (3) OUT (2)

LF353H
LF356H
LF357H



(Bottom view)

2SA844
2SB646
2SC945
2SC1364
2SD666A

E C B

2SB548
2SD414

letter side

E C B

2SA985A
2SC2275
2SD1133

B C E

2SA1027R

E C B

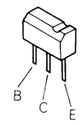
2SC710

B C E

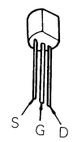
2SC1129

B E C

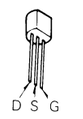
2SA937
2SC2021



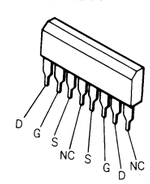
2SK107



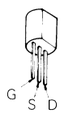
2SK152



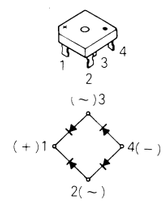
2SK244



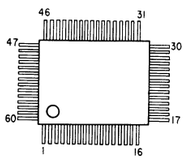
2SK120



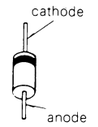
PB102F



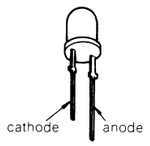
MSM58422



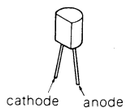
1S1555
10DF2
10E2
10YD2.4A
1SS119
EQA01-06S2
EQA01-19R2
EQA01-33
EQB01-10
HZ5C1
HZ6B2L
HZ6C1L
HZ7B2L
HZ16-1L



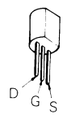
SLR-34DC5
SLR-34PC5



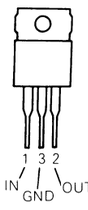
FC54M
10YG1.1



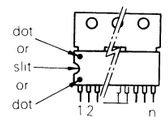
2SK121



NJM-78M15A
μPC7805H



NJM5532P



(Marking side view)

4-5. SCHEMATIC DIAGRAM
– DISPLAY/POWER SECTION –

Note:

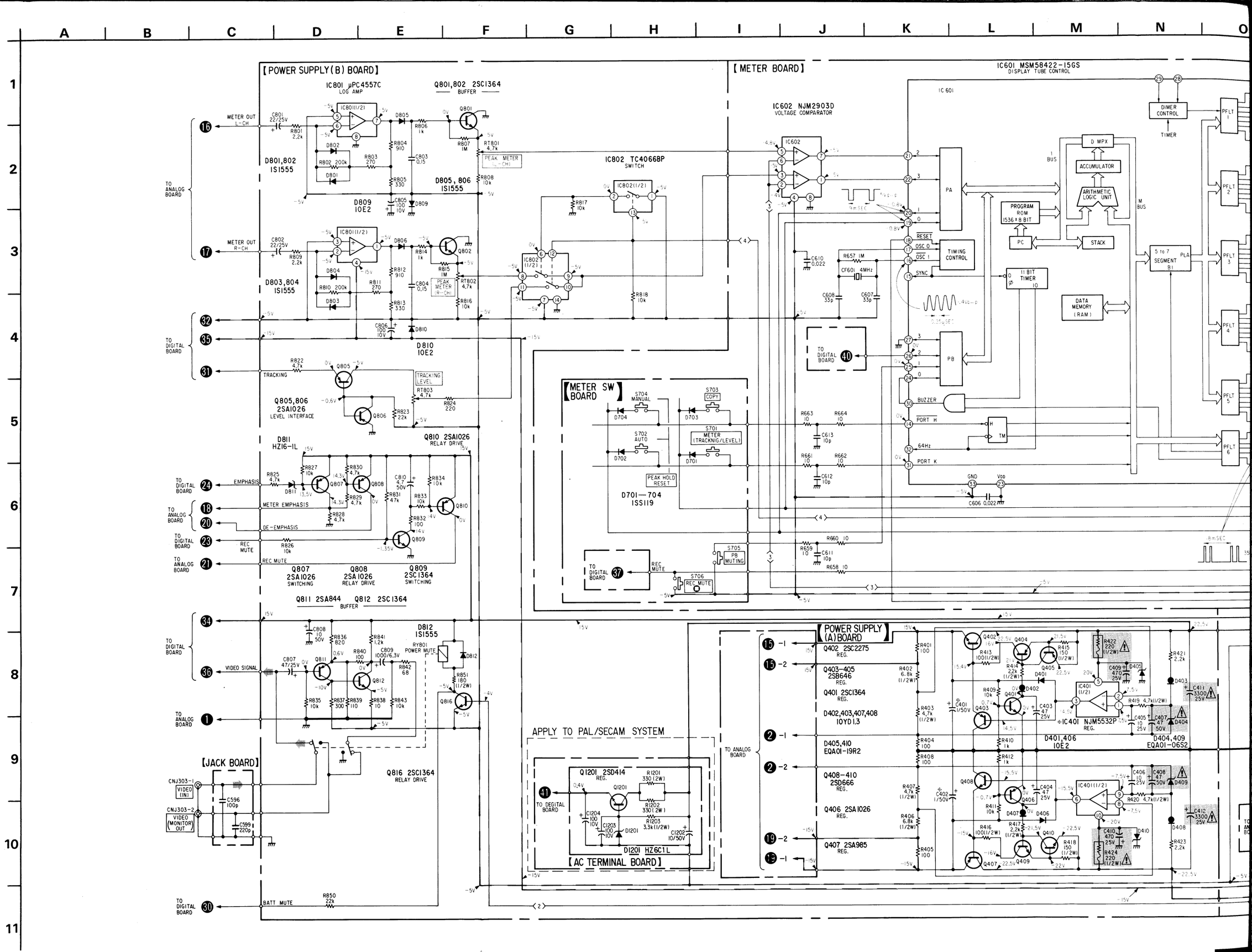
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : nonflammable resistor.
- : fusible resistor.
- : adjustment for repair.
- ——: B+ bus.
- — — —: B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (E-E mode) conditions with a VOM (50 kΩ/V).
- Voltage/waveform are measured with a wide-band oscilloscope.
- : signal path
- Switch

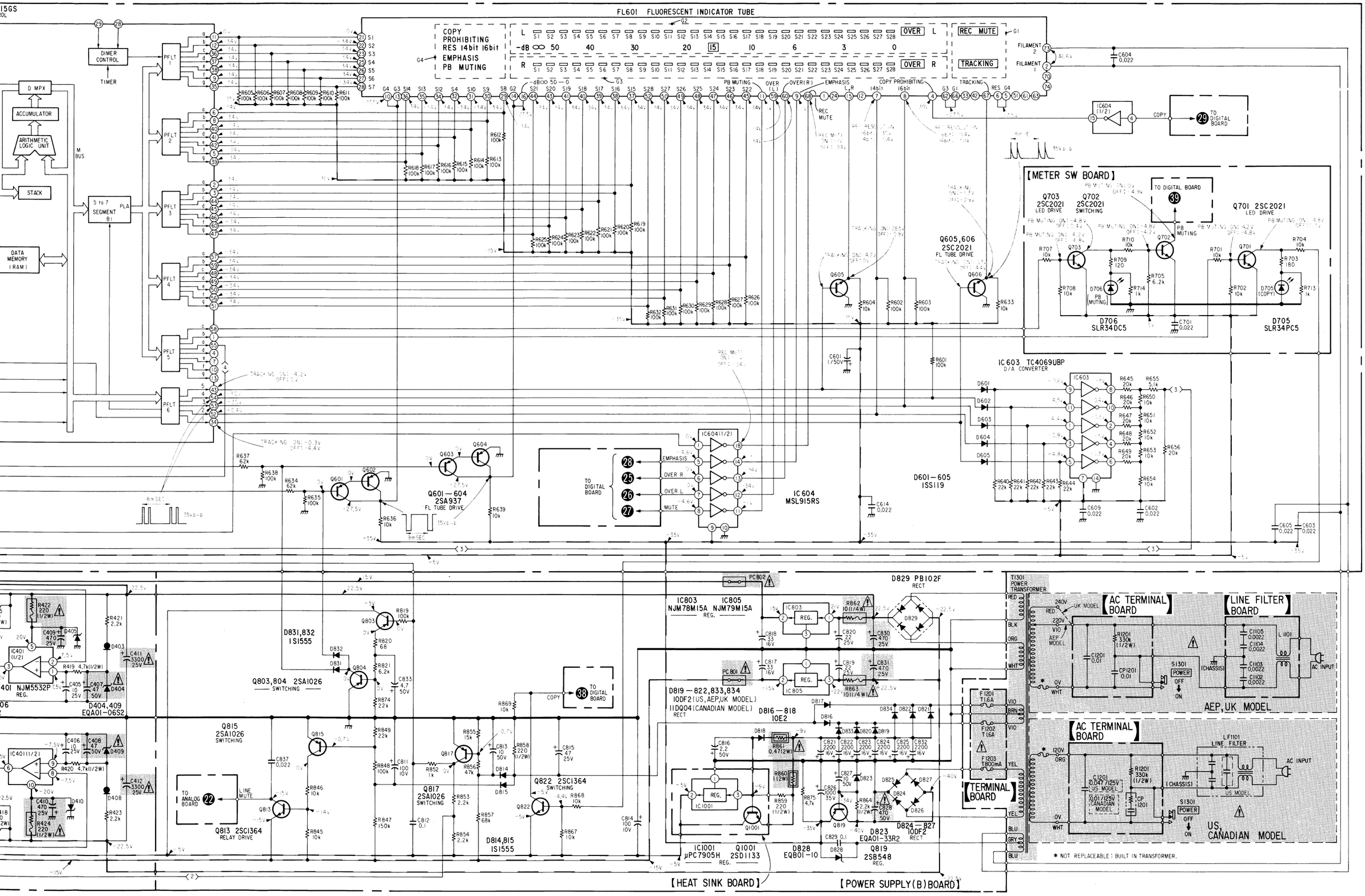
Ref. No.	Switch	Position
S701	METER (TRACKING LEBEL)	OFF
S702	AUTO-PEAK HOLD RESETT	OFF
S703	COPY	OFF
S704	MANUAL-PEAK HOLD RESETTE	OFF
S705	PB MUTING	OFF
S706	REC MUTE	OFF
S1310	POWER	OFF

Note: Voltages are measured with a VOM (50 kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


【POWER SUPPLY(B) BOARD】
IC801 μPC4557C
LOG AMP
Q801,802 2SC1364
BUFFER
METER OUT L-CH
METER OUT R-CH
TO ANALOG BOARD
TO DIGITAL BOARD
D801,802 1S1555
D803,804 1S1555
D805,806 1S1555
D809 10E2
D810 10E2
PEAK METER (L-CH)
PEAK METER (R-CH)
IC802 TC4066BP
SWITCH
TRACKING
TRACKING LEVEL
Q805,806 2SA1026
LEVEL INTERFACE
D811 HZ16-IL
Q810 2SA1026
RELAY DRIVE
EMPHASIS
METER EMPHASIS
DE-EMPHASIS
REC MUTE
Q807 2SA1026
SWITCHING
Q808 2SA1026
RELAY DRIVE
Q809 2SC1364
SWITCHING
Q811 2SA844
Q812 2SC1364
BUFFER
D812 1S1555
RY801 POWER MUTE
VIDEO SIGNAL
BATT MUTE
【JACK BOARD】
CNJ303-1
VIDEO (IN)
CNJ303-2
VIDEO (MONITOR) OUT
【METER BOARD】
IC601 MSM58422-15GS
DISPLAY TUBE CONTROL
IC602 NJM2903D
VOLTAGE COMPARATOR
PA
PB
PC
TIMING CONTROL
PROGRAM ROM 1536×8 BIT
ACCUMULATOR
ARITHMETIC LOGIC UNIT
STACK
11 BIT TIMER
DATA MEMORY (RAM)
DIMER CONTROL
TIMER
5 to 7 SEGMENT
PLA
PFLT 1
PFLT 2
PFLT 3
PFLT 4
PFLT 5
PFLT 6
BUZZER
PORT H
PORT K
64Hz
【METER SW BOARD】
S704 MANUAL
S703 COPY
S702 AUTO
S701 METER (TRACKNIG/LEVEL)
PEAK HOLD RESET
D701—704 1SS119
S705 PB MUTING
S706 REC MUTE
APPLY TO PAL/SECAM SYSTEM
Q1201 2SD414
REG.
D1201 HZ6C1L
【AC TERMINAL BOARD】
【POWER SUPPLY (A) BOARD】
Q402 2SC2275
REG.
Q403-405 2SB646
REG.
Q401 2SC1364
REG.
D402,403,407,408 1OYD1.3
D405,410 EQA01-19R2
Q408-410 2SD666
REG.
Q406 2SA1026
REG.
Q407 2SA985
REG.
IC401 NJM5532P
REG.
D401,406 1OE2
D404,409 EQA01-06S2


FL601 FLUORESCENT INDICATOR TUBE
COPY PROHIBITING
RES 14bit 16bit
EMPHASIS
PB MUTING
REC MUTE
TRACKING
FILAMENT 2
FILAMENT 1
C604 0.022
IC604 (1/2)
COPY
TO DIGITAL BOARD 29
D MPX
ACCUMULATOR
ARITHMETIC LOGIC UNIT
STACK
DATA MEMORY (RAM)
M BUS
DIMER CONTROL
TIMER
5 to 7 SEGMENT PLA B1
PFLT 1
PFLT 2
PFLT 3
PFLT 4
PFLT 5
PFLT 6
R605 100k R606 100k R607 100k R608 100k R609 100k R610 100k R611 100k
R612 100k
R613 100k R614 100k R615 100k R616 100k R617 100k R618 100k
R619 100k R620 100k R621 100k R622 100k R623 100k R624 100k R625 100k
R626 100k R627 100k R628 100k R629 100k R630 100k R631 100k R632 100k
【METER SW BOARD】
TO DIGITAL BOARD 39
Q703 2SC2021 LED DRIVE
Q702 2SC2021 SWITCHING
Q701 2SC2021 LED DRIVE
PB MUTING
D706 SLR34DC5
D705 SLR34PC5
C701 0.022
Q605,606 2SC2021 FL TUBE DRIVE
Q605
Q606
C601 1/50V
R601 100k
IC603 TC4069UBP D/A CONVERTER
D601
D602
D603
D604
D605
D601—605 1SS119
IC604 MSL915RS
C614 0.022
C609 0.022
C602 0.022
C605 0.022
C603 0.022
TO DIGITAL BOARD 28 25 26 27
EMPHASIS
OVER R
OVER L
MUTE
Q601—604 2SA937 FL TUBE DRIVE
Q601
Q602
Q603
Q604
R637 62k
R638 100k
R634 62k
R635 100k
R636 10k
R639 10k
8mSEC
35vp-p
9mSEC
TRACKING ON:-0.3V OFF:-4.4V
D831,832 1S1555
Q803,804 2SA1026 SWITCHING
Q815 2SA1026 SWITCHING
Q817 2SA1026 SWITCHING
Q822 2SC1364 SWITCHING
Q813 2SC1364 RELAY DRIVE
TO ANALOG BOARD 22
LINE MUTE
D814,815 1S1555
TO DIGITAL BOARD 38
IC401 NJM5532P REG.
D404,409 EQA01-06S2
D408
D410
IC803 NJM78M15A REG.
IC805 NJM79M15A REG.
PC802
PC801
D829 PB102F RECT
D819—822,833,834 10DF2(US,AEP,UK MODEL) 11DQ04(CANADIAN MODEL) RECT
D816—818 10E2
D823 EQA01-33R2 RECT
D824—827 10DF2 RECT
D828 EQB01-10
Q819 2SB548 REG.
IC1001 μPC7905H REG.
Q1001 2SD1133
【HEAT SINK BOARD】
【POWER SUPPLY(B)BOARD】
T1301 POWER TRANSFORMER
【AC TERMINAL BOARD】
【LINE FILTER BOARD】
AEP,UK MODEL
US, CANADIAN MODEL
【TERMINAL BOARD】
F1201 T1.6A
F1202 T1.6A
F1203 T800mA
S1301 POWER
AC INPUT
LF1101 LINE FILTER
* NOT REPLACEABLE : BUILT IN TRANSFORMER.

4-6. MOUNTING DIAGRAM — DISPLAY/POWER SECTION —

- Semiconductor Lead Layouts: See page 42.
- Circuit Board Location: See page 18.

【METER BOARD】

【METER SW BOARD】

【HEAT SINK BOARD】

【POWER SUPPLY (B) BOARD】

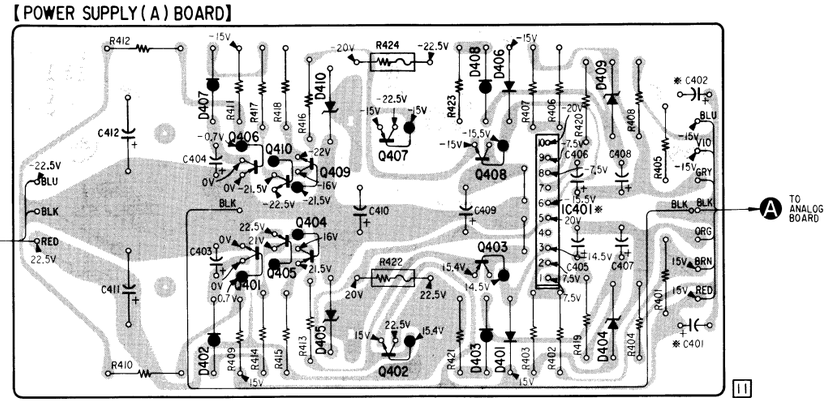
FL601 FLUORESCENT INDICATOR TUBE

O P Q R S T U V W X Y Z

29		814,815,819,820,821,822							
		816,817,833,834							
	811	812							
	817	809							
	812	810							
	811	808							
		807							

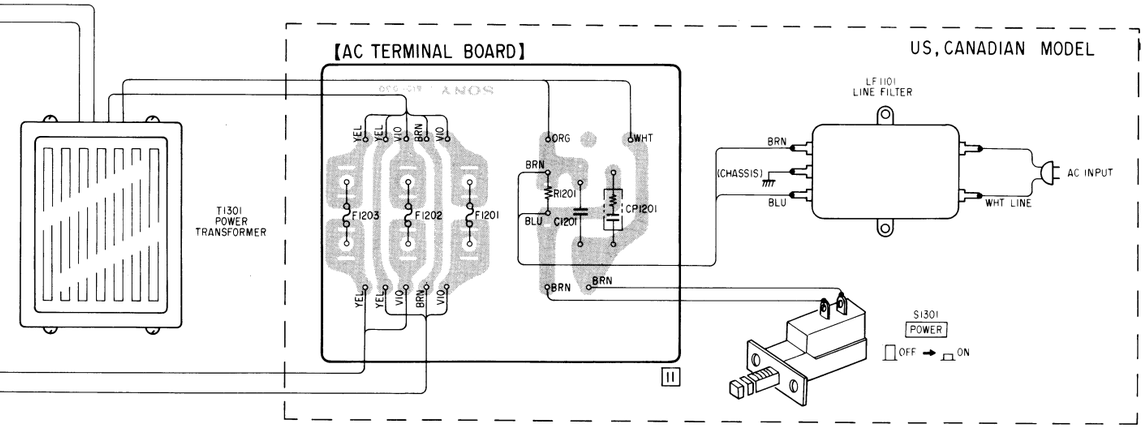
D		407		410		408,406		409	
		402		405		403,401		404	
Q · IC		406	410	409	407	408	IC401		
		401	405	404	402	403			

【POWER SUPPLY(A)BOARD】



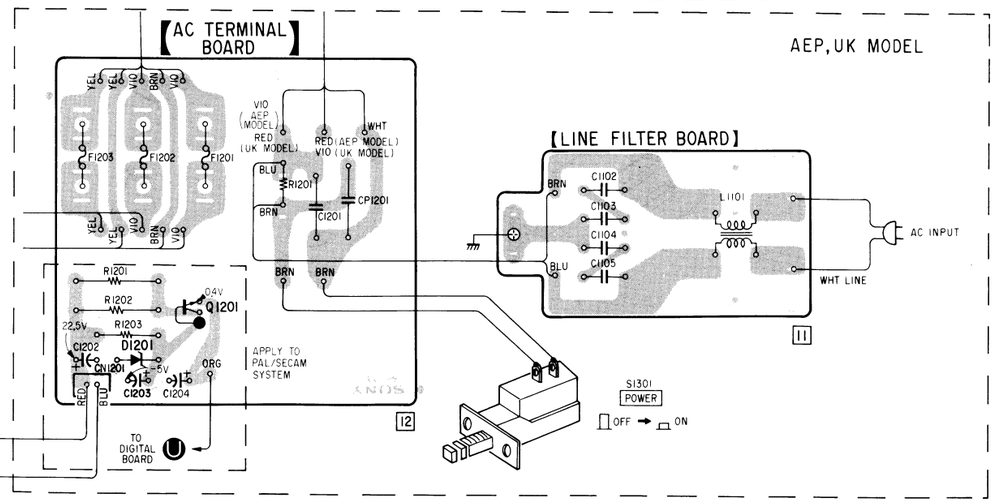
【AC TERMINAL BOARD】

US, CANADIAN MODEL

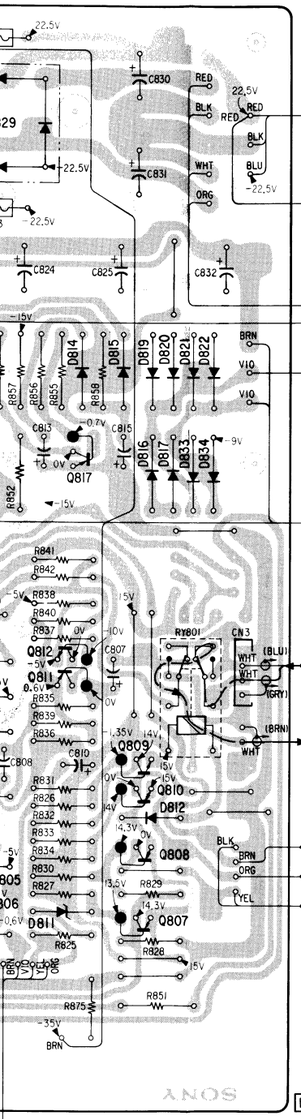


【AC TERMINAL BOARD】

AEP,UK MODEL



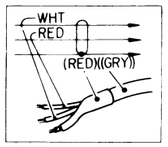
【LINE FILTER BOARD】



TAL BOARD

Note:

- Color code of sleeving over the end of the jacket.



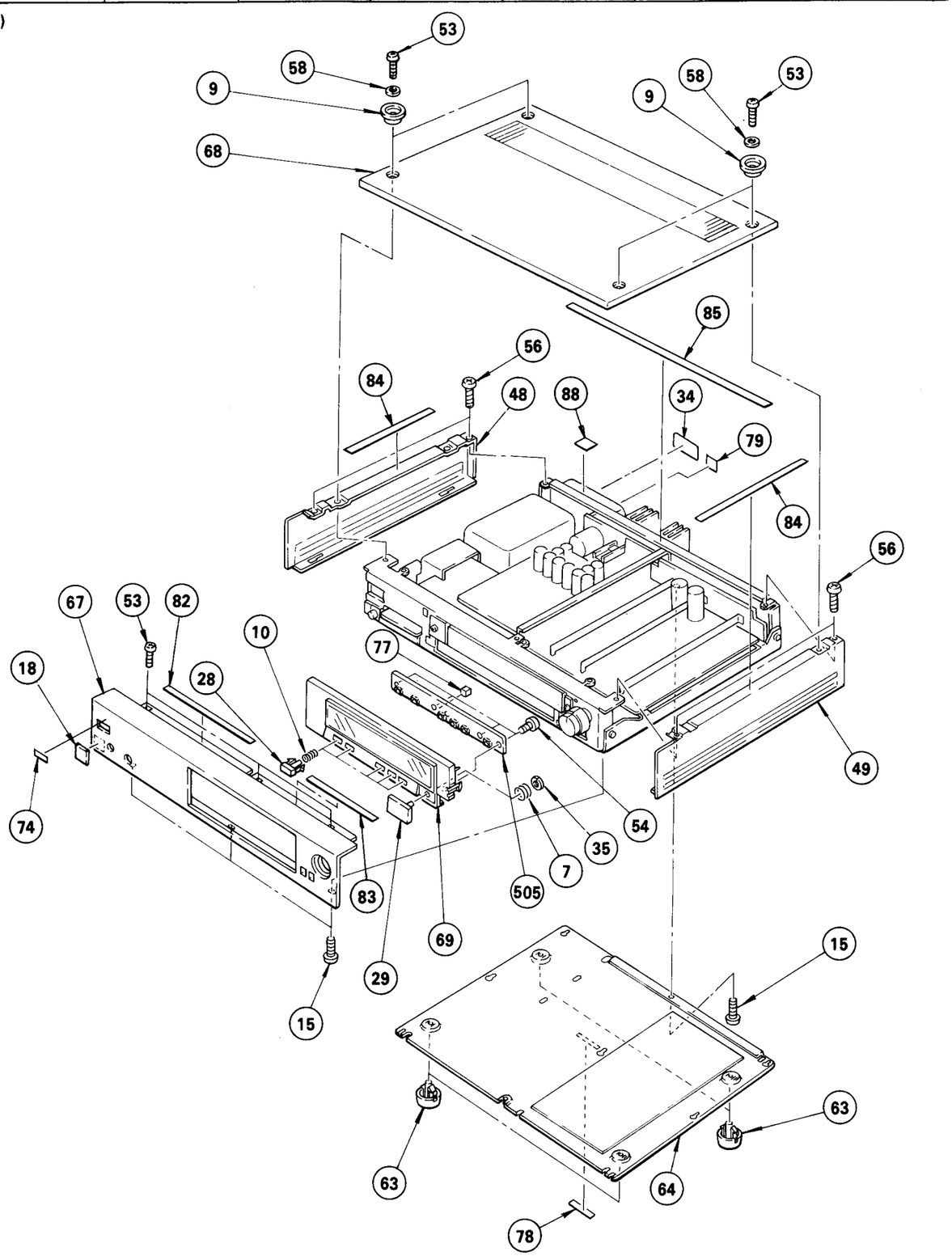
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ▨ : pattern connection on the component side.
- ▨ : B + pattern

- ▬▶▬ : signal path
- ▬▬▶ : L-CH signal path
- ▬·▬▶ : R-CH signal path

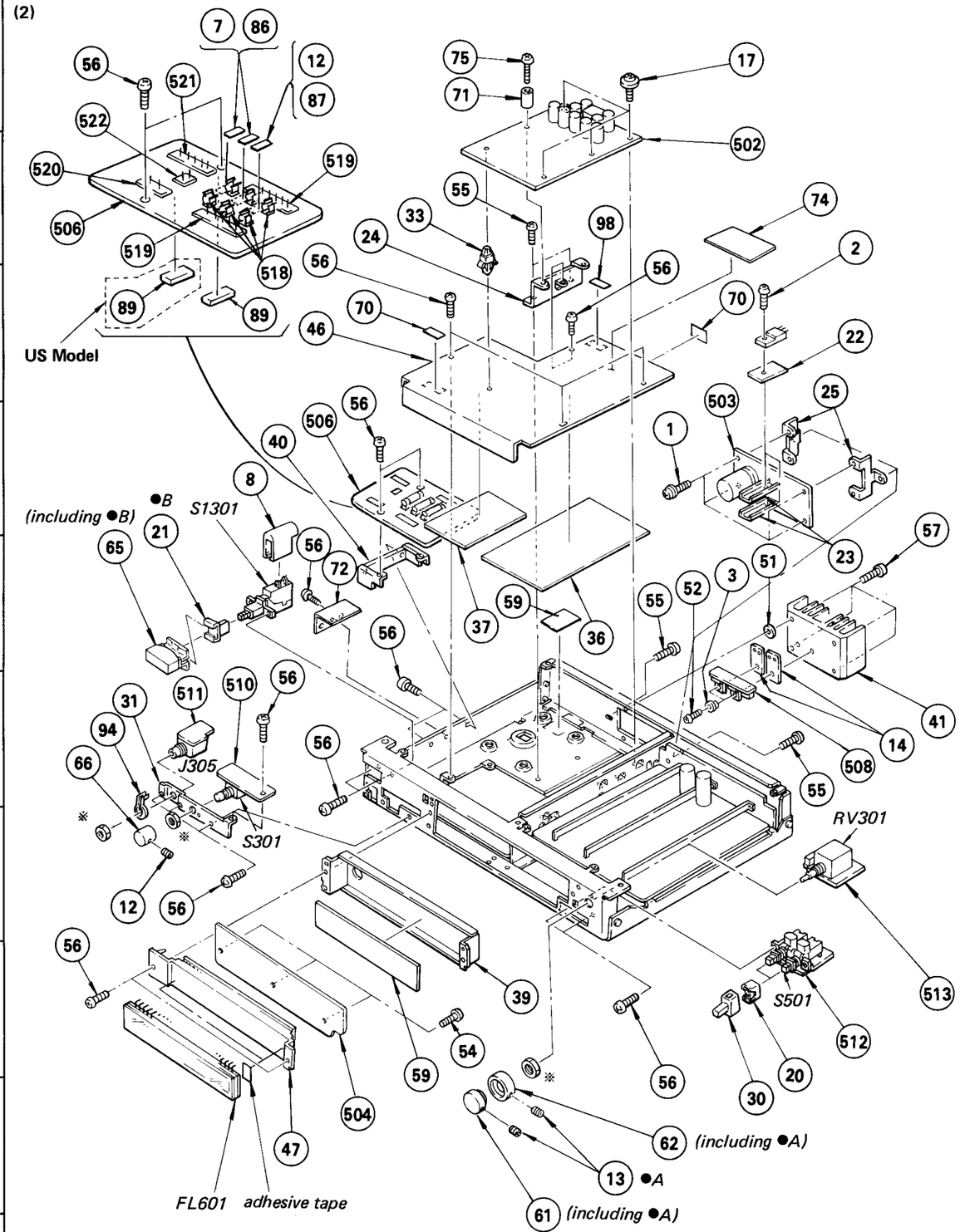
SECTION 5

EXPLODED VIEWS AND PARTS LIST

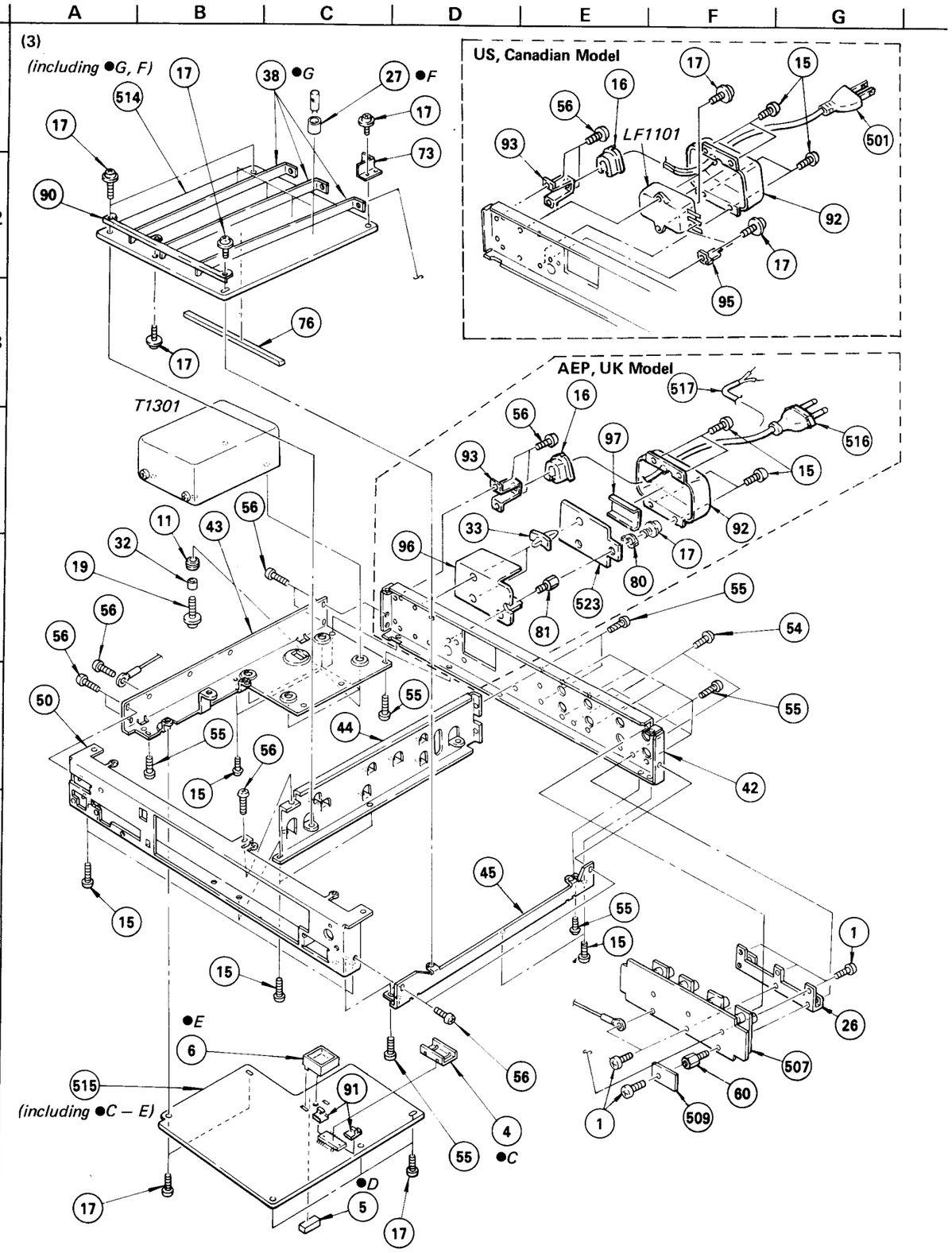
(1)



(2)



※ : Nut supplied with jack, variable resistor or switch.



GENERAL SECTION

No.	Part No.	Description
1	2-259-121-00	SCREW, TR
2	2-259-121-11	SCREW, TR
3	2-832-007-00	BUSHING (K), INSULATING
4	2-362-355-00	HEAT SINK, IC
5	9-911-846-XX	CUSHION (A)
6 ♦	2-362-376-00	CASE (2), SHIELD, VCO
7 ♦	3-701-946-22	(US,Canadian)...LABEL, FUSE
8	3-575-524-00	COVER, POWER SWITCH
9	3-576-298-11	ESCUTCHEON
10	3-578-221-00	SPRING, COMPRESSION
11	3-630-837-00	BUSHING, STAND BY LAMP
12 ♦	3-701-946-34	(US,Canadian)...LABEL, FUSE RATING
13	3-701-506-01	SET SCREW, DOUBLE POINT 3X4
14	3-703-037-00	INSULATOR, TO-220
15	3-703-108-21	SCREW +BV 3X6, S TIGHT
16	3-703-244-00	BUSHING, CORD
17	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6
18	3-703-710-41	STICKER, SONY SYMBOL (12)
19	4-820-330-00	SCREW, BW, PLUS MINUS
20	4-864-307-00	RING
21	4-866-342-00	JOINT (B), KNOB
22	4-870-272-00	HEAT SINK
23 ♦	4-886-555-00	HEAT SINK
24 ♦	4-886-501-00	BRACKET (A), CHASSIS
25 ♦	4-886-502-00	BRACKET (B), CHASSIS
26 ♦	4-886-503-00	PLATE, GROUND, PIN JACK
27 ♦	4-886-504-00	SPACER
28	4-886-506-00	KNOB (A), KEY BOARD
29	4-886-507-00	KNOB (B), KEY BOARD
30	4-886-509-00	KNOB, PUSH
31 ♦	4-886-510-00	BRACKET, JACK, HEADPHONE
32 ♦	4-886-511-00	COLLAR, TRANSFORMER
33 ♦	3-703-353-01	SUPPORT, PC BOARD
34	4-886-559-00	(US,Canadian)..LABEL, MODEL NUMBER (U,CND)
34	4-886-560-00	(AEP).....LABEL, MODEL NUMBER (AEP1)
34	4-886-561-00	(UK).....LABEL, MODEL NUMBER (UK)
35	4-886-514-00	RING, STOPPER
36 ♦	4-886-520-00	SHEET (D), DAMPING
37 ♦	4-886-521-00	SHEET (E), DAMPING
38 ♦	4-886-522-00	BUS BAR
39 ♦	4-886-525-00	CASE, SHIELD
40 ♦	4-886-528-00	BRACKET (C), CHASSIS
41 ♦	4-886-529-00	HEAT SINK
42	4-886-568-00	(Canadian,AEP,UK)...PLATE, JACK
42	4-886-568-11	(US).....PLATE, JACK

GENERAL SECTION

No.	Part No.	Description
43 ♦	4-886-531-00	PLATE, SIDE, LEFT
44 ♦	4-886-532-00	PLATE, RELAY
45 ♦	4-886-533-00	PLATE, SIDE, RIGHT
46 ♦	4-886-534-00	PLATE, SHIELD
47	4-886-536-00	HOLDER, FL TUBE
48	4-886-538-00	(Canadian,AEP,UK)....PLATE (LEFT), SIDE, ORNAMENTAL
48	4-886-538-11	(US)...PLATE (LEFT), SIDE, ORNAMENTAL
49	4-886-539-00	(Canadian,AEP,UK)....PLATE(RIGHT), SIDE, ORNAMENTAL
49	4-886-539-11	(US)...PLATE(RIGHT), SIDE, ORNAMENTAL
50 ♦	4-886-540-00	CHASSIS, AMPLIFIER
51	2-045-013-31	WASHER, PANEL (DIA.4)
52	7-621-773-95	SCREW +B 2.6X6
53	7-682-547-09	SCREW +B 3X6
54	7-685-546-19	SCREW +BTP 3X8 TYPE2 N-S
55	7-685-870-09	SCREW +BVTT 3X5 (S)
56	7-685-871-01	SCREW +BVTT 3X6 (S)
57	7-685-873-09	SCREW +BVTT 3X10 (S)
58	7-688-003-12	W 3, MIDDLE
59	9-911-863-XX	SHEET, INSULATING
60 ♦	4-886-542-00	SUPPORT
61	X-3304-909-0	KNOB (RIGHT) ASSY, REC
62	X-3304-910-0	KNOB (LEFT) ASSY, REC
63	X-4864-303-0	FOOT ASSY
64	X-4885-506-1	BOTTOM PLATE ASSY
65	X-4885-901-0	KNOB ASSY, POWER
66	X-4886-501-0	KNOB ASSY, HEADPHONE
67	X-4886-504-0	(Canidian,AEP,UK:NTSC)...PANEL ASSY, FRONT
67	X-4886-504-5	(PAC/SECAM)...PANEL ASSY, FRONT
67	X-4886-504-6	(US:NTSC).....PANEL ASSY, FRONT
68	X-4886-505-1	COVER ASSY
69	X-4886-507-1	ESCUTCHEON
70 ♦	3-703-044-26	(US,Canadian)...LABEL, CAUTION
71	4-886-558-00	COLLAR
72 ♦	4-886-545-00	COVER, SAFETY, ELECTRIC SHOCK
73 ♦	4-886-553-00	PLATE, SHIELD, PIN JACK
74	3-701-690-00	(UK)....LABEL (MADE IN JAPAN)
75	7-682-555-09	SCREW +B 3X30
76	9-911-844-XX	CUSHION, VIBRATION PROOF
77	9-911-840-XX	SPACER
78 ♦	3-703-678-00	(US,Canadian)...LABEL, CAUTION, NEW UL
79 ♦	3-703-680-00	(US).....LABEL, CAUTION, SUB, NEW UL
80	4-843-416-00	(AEP,UK)...PLATE, FIXED, CAP

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

GENERAL SECTION

No.	Part No.	Description
81	4-861-433-00	(AEP,UK)....SUPPORT (A)
82	4-886-576-00	(US)....FELT (A), CONDUCTIVE
83	4-886-577-00	(US)....FELT (B), CONDUCTIVE
84	4-886-578-00	(US)....SPACER (A), CONDUCTIVE
85	4-886-579-00	(US)....SPACER (B), CONDUCTIVE
86	3-701-948-16	(AEP,UK)....LABEL, FUSE
87	3-701-948-13	(AEP,UK)....LABEL, FUSE
88	3-703-082-21	(UK)....LABEL, CAUTION
89	9-911-842-XX	CUSHION, AC
90 ♦	4-886-556-00	REINFORCEMENT
91	4-886-557-00	CLIP (B), IC
92 ♦	4-886-566-00	CASE, FILTER
93 ♦	4-886-567-00	BRACKET, POWER CORD
94 ♦	4-886-571-00	(US).....LUG, JACK
95 ♦	4-886-572-00	(US,Canadian)...PLATE, GROUND, FILTER
96	4-886-563-00	(AEP,UK)....INSULATOR (A), FILTER
97	4-886-564-00	(AEP,UK)....INSULATOR (B), FILTER
98	4-886-565-00	(AEP,UK)....SHEET (D), INSULATING

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101	1-551-315-00	CORD, CONNECTION (RK-112)
102	1-556-464-00	(AEP,UK).....CORD, CONNECTION
102	1-551-086-81	(US,Canadian)...CORD, CONNECTION
103	3-701-630-00	BAG, POLYETHYLENE
104	3-773-274-21	MANUAL, INSTRUCTION
104	3-773-274-31	(Canadian).....MANUAL, INSTRUCTION
104	3-773-274-11	(PAL/SECAM:AEP,UK)...MANUAL, INSTRUCTION
105	3-536-825-00	BAG, PROTECTING
106	3-703-507-00	(UK)...LABEL
107	3-701-360-00	(AEP).....LABEL
107	3-703-157-00	(US).....LABEL
107	3-703-160-00	(Canadian)...LABEL
107	3-703-165-00	(UK).....LABEL
108	4-886-573-00	CUSHION
109	4-886-574-00	CUSHION
110	4-886-575-00	INDIVIDUAL CARTON

ELECTRICAL PARTS

Ref.No.	Part No.	Description
[illegible]		
502 ♦	A-4394-298-A	MOUNTED PCB, POWER (B)
503 ♦	A-4394-297-A	MOUNTED PCB, POWER (A)
504 ♦	A-4380-046-A	MOUNTED PCB, METER
505 ♦	1-609-238-00	PC BOARD, METER SWITCH
506 ♦	1-610-030-00	(US,Canadian)...PC BOARD, AC TRANSLATION
506 ♦	1-610-031-00	(AEP,UK).....PC BOARD, AC TRANSLATION
507 ♦	1-610-505-00	PC BOARD, PIN JACK
508 ♦	1-609-241-00	PC BOARD, HEAT SINK
509 ♦	1-609-433-00	PC BOARD, INVERTER
510 ♦	1-609-242-00	PC BOARD, HEADPHONE AMP
511 ♦	1-609-243-00	PC BOARD, HEADPHONE JACK
512 ♦	1-609-244-00	PC BOARD, RES SWITCH
513 ♦	1-609-245-00	PC BOARD, REC VOL
514 ♦	A-4334-009-A	(Canadian,AEP,UK)...MOUNTED PCB, ANALOG
514 ♦	A-4334-010-A	(US).....MOUNTED PCB, ANALOG
515 ♦	A-4335-266-A	(PAL/SECAM)...MOUNTED PCB, DIGITAL
515 ♦	A-4335-274-A	(NTSC).....MOUNTED PCB, DIGITAL
[illegible]		
518	1-533-131-00	HOLDER, FUSE
519 ♦	1-535-118-00	TERMINAL
520 ♦	1-535-135-00	BASE POST 14MM (10MM PITCH)
521 ♦	1-535-136-00	BASE POST 14MM (10MM PITCH) 3P
522 ♦	1-535-139-00	(US,Canadian)...BASE POST 19MM (10MM PITCH)
523 ♦	1-610-607-00	(AEP,UK)....PC BOARD, LINE FILTER
C101	1-107-165-00	MICA 56PF 5% 500V
C102	1-161-494-00	(US)....CERAMIC 0.022MF 30% 25V
C104	1-130-922-00	FILM 0.056MF 2% 250V
C105	1-107-322-00	MICA 22PF 5% 500V
C106	1-131-450-00	TANTALUM 1MF 20% 50V
C107	1-131-450-00	TANTALUM 1MF 20% 50V
C108	1-131-450-00	TANTALUM 1MF 20% 50V
C109	1-131-450-00	TANTALUM 1MF 20% 50V
C110	1-131-522-00	TANTALUM 10MF 20% 25V
C111	1-131-522-00	TANTALUM 10MF 20% 25V
C112	1-107-310-00	MICA 220PF 5% 500V
C113	1-131-520-00	TANTALUM 22MF 20% 16V
C114	1-131-450-00	TANTALUM 1MF 20% 50V
C115	1-131-450-00	TANTALUM 1MF 20% 50V
C116	1-104-230-00	POLYSTYRENE 0.0015MF 5% 50V
C117	1-131-450-00	TANTALUM 1MF 20% 50V
C118	1-131-450-00	TANTALUM 1MF 20% 50V
C119	1-161-039-00	CERAMIC 0.001MF 10% 25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C120	1-102-978-00	CERAMIC 220PF 5% 50V
C121	1-102-529-00	CERAMIC 100PF 5% 50V
C122	1-102-514-00	CERAMIC 22PF 5% 50V
C123	1-131-427-00	TANTALUM 220MF 20% 6.3V
C124	1-131-371-00	TANTALUM 10MF 20% 16V
C125	1-131-520-00	TANTALUM 22MF 20% 16V
C126	1-131-371-00	TANTALUM 10MF 20% 16V
C127	1-131-371-00	TANTALUM 10MF 20% 16V
C128	1-131-450-00	TANTALUM 1MF 20% 50V
C129	1-161-039-00	CERAMIC 0.001MF 10% 25V
C130	1-123-829-00	ELECT 2.2MF 20% 50V
C131	1-104-230-00	POLYSTYRENE 0.0015MF 5% 50V
C132	1-131-520-00	TANTALUM 22MF 20% 16V
C133	1-107-317-00	MICA 33PF 5% 500V
C134	1-131-450-00	TANTALUM 1MF 20% 50V
C135	1-131-450-00	TANTALUM 1MF 20% 50V
C136	1-131-450-00	TANTALUM 1MF 20% 50V
C137	1-131-450-00	TANTALUM 1MF 20% 50V
C138	1-107-324-00	MICA 0.0039MF 2% 100V
C139	1-131-450-00	TANTALUM 1MF 20% 50V
C140	1-131-450-00	TANTALUM 1MF 20% 50V
C141	1-131-522-00	TANTALUM 10MF 20% 25V
C142	1-131-522-00	TANTALUM 10MF 20% 25V
C143	1-107-310-00	MICA 220PF 5% 500V
C146	1-130-621-00	FILM 0.012MF 5% 50V
C147	1-123-356-00	ELECT 10MF 20% 16V
C148	1-123-356-00	ELECT 10MF 20% 16V
C149	1-161-263-00	(US)...CERAMIC 22PF 5% 50V
C150	1-161-263-00	(US)...CERAMIC 22PF 5% 50V
C151	1-161-271-00	(US)...CERAMIC 100PF 5% 50V
C201	1-107-165-00	MICA 56PF 5% 500V
C202	1-161-494-00	(US)...CERAMIC 0.022MF 30% 25V
C204	1-130-922-00	FILM 0.056MF 2% 250V
C205	1-107-322-00	MICA 22PF 5% 500V
C206	1-131-450-00	TANTALUM 1MF 20% 50V
C207	1-131-450-00	TANTALUM 1MF 20% 50V
C208	1-131-450-00	TANTALUM 1MF 20% 50V
C209	1-131-450-00	TANTALUM 1MF 20% 50V
C210	1-131-522-00	TANTALUM 10MF 20% 25V
C211	1-131-522-00	TANTALUM 10MF 20% 25V
C212	1-107-310-00	MICA 220PF 5% 500V
C213	1-131-520-00	TANTALUM 22MF 20% 16V
C214	1-131-450-00	TANTALUM 1MF 20% 50V
C215	1-131-450-00	TANTALUM 1MF 20% 50V
C216	1-104-230-00	POLYSTYRENE 0.0015MF 5% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C217	1-131-450-00	TANTALUM 1MF 20% 50V
C218	1-131-450-00	TANTALUM 1MF 20% 50V
C219	1-161-039-00	CERAMIC 0.001MF 10% 25V
C220	1-102-978-00	CERAMIC 220PF 5% 50V
C221	1-102-529-00	CERAMIC 100PF 5% 50V
C222	1-102-514-00	CERAMIC 22PF 5% 50V
C223	1-131-427-00	TANTALUM 220MF 20% 6.3V
C224	1-131-371-00	TANTALUM 10MF 20% 16V
C225	1-131-520-00	TANTALUM 22MF 20% 16V
C226	1-131-371-00	TANTALUM 10MF 20% 16V
C227	1-131-371-00	TANTALUM 10MF 20% 16V
C228	1-131-450-00	TANTALUM 1MF 20% 50V
C229	1-161-039-00	CERAMIC 0.001MF 10% 25V
C230	1-123-829-00	ELECT 2.2MF 20% 50V
C231	1-104-230-00	POLYSTYRENE 0.0015MF 5% 50V
C232	1-131-520-00	TANTALUM 22MF 20% 16V
C233	1-107-317-00	MICA 33PF 5% 500V
C234	1-131-450-00	TANTALUM 1MF 20% 50V
C235	1-131-450-00	TANTALUM 1MF 20% 50V
C236	1-131-450-00	TANTALUM 1MF 20% 50V
C237	1-131-450-00	TANTALUM 1MF 20% 50V
C238	1-107-324-00	MICA 0.0039MF 2% 100V
C239	1-131-450-00	TANTALUM 1MF 20% 50V
C240	1-131-450-00	TANTALUM 1MF 20% 50V
C241	1-131-522-00	TANTALUM 10MF 20% 25V
C242	1-131-522-00	TANTALUM 10MF 20% 25V
C243	1-107-310-00	MICA 220PF 5% 500V
C246	1-130-621-00	FILM 0.012MF 5% 50V
C247	1-123-356-00	ELECT 10MF 20% 16V
C248	1-123-356-00	ELECT 10MF 20% 16V
C249	1-161-263-00	(US)...CERAMIC 22PF 5% 50V
C250	1-161-263-00	(US)...CERAMIC 22PF 5% 50V
C251	1-161-271-00	(US)...CERAMIC 100PF 5% 50V
C301	1-125-288-00	ELECT(BLOCK) 100MF 20% 100V
C302	1-125-288-00	ELECT(BLOCK) 100MF 20% 100V
C303	1-131-450-00	TANTALUM 1MF 20% 50V
C304	1-131-450-00	TANTALUM 1MF 20% 50V
C309	1-131-450-00	TANTALUM 1MF 20% 50V
C310	1-131-450-00	TANTALUM 1MF 20% 50V
C311	1-123-683-00	ELECT 220MF 20% 16V
C312	1-123-683-00	ELECT 220MF 20% 16V
C313	1-131-450-00	TANTALUM 1MF 20% 50V
C314	1-131-450-00	TANTALUM 1MF 20% 50V
C315	1-131-371-00	TANTALUM 10MF 20% 16V
C316	1-161-039-00	CERAMIC 0.001MF 10% 25V

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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- All resistors are in ohms.
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- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C317	1-161-039-00	CERAMIC	0.001MF	10%	25V
C318	1-102-865-00	CERAMIC	8PF	0.5PF	50V
C319	1-131-371-00	TANTALUM	10MF	20%	16V
C320	1-131-371-00	TANTALUM	10MF	20%	16V
C321	1-131-371-00	TANTALUM	10MF	20%	16V
C323	1-161-039-00	CERAMIC	0.001MF	10%	25V
C324	1-131-371-00	TANTALUM	10MF	20%	16V
C325	1-131-371-00	TANTALUM	10MF	20%	16V
C326	1-161-494-00	(US)..CERAMIC	0.022MF	30%	25V
C327	1-123-683-00	ELECT	220MF	20%	16V
C328	1-131-450-00	TANTALUM	1MF	20%	50V
C329	1-123-683-00	ELECT	220MF	20%	16V
C330	1-131-450-00	TANTALUM	1MF	20%	50V
C331	1-161-019-00	CERAMIC	0.033MF	10%	25V
C332	1-161-019-00	CERAMIC	0.033MF	10%	25V
C333	1-131-520-00	TANTALUM	22MF	20%	16V
C334	1-123-324-00	ELECT	1000MF	20%	16V
C335	1-123-324-00	ELECT	1000MF	20%	16V
C336	1-102-514-00	CERAMIC	22PF	5%	50V
C337	1-131-347-00	TANTALUM	1MF	20%	35V
C401	1-131-450-00	TANTALUM	1MF	20%	50V
C402	1-131-450-00	TANTALUM	1MF	20%	50V
C403	1-123-332-00	ELECT	47MF	20%	25V
C404	1-123-332-00	ELECT	47MF	20%	25V
C405	1-131-522-00	TANTALUM	10MF	20%	25V
C406	1-131-522-00	TANTALUM	10MF	20%	25V
C407 ⚠	1-123-359-00	ELECT	47MF	20%	50V
C408 ⚠	1-123-359-00	ELECT	47MF	20%	50V
C409 ⚠	1-123-696-00	ELECT	470MF	20%	25V
C410 ⚠	1-123-696-00	ELECT	470MF	20%	25V
C411 ⚠	1-123-842-00	ELECT	3300MF	20%	25V
C412 ⚠	1-123-842-00	ELECT	3300MF	20%	25V
C501	1-161-019-00	CERAMIC	0.033MF	10%	25V
C502	1-161-019-00	CERAMIC	0.033MF	10%	25V
C503	1-123-230-00	ELECT	2.2MF	20%	50V
C504	1-101-361-00	CERAMIC	150PF	5%	50V
C505	1-161-019-00	CERAMIC	0.033MF	10%	25V
C506	1-161-019-00	CERAMIC	0.033MF	10%	25V
C507	1-101-361-00	CERAMIC	150PF	5%	50V
C508	1-161-019-00	CERAMIC	0.033MF	10%	25V
C509	1-161-019-00	CERAMIC	0.033MF	10%	25V
C510	1-131-343-00	TANTALUM	0.22MF	20%	35V
C511	1-123-230-00	ELECT	2.2MF	20%	50V
C512	1-123-380-00	ELECT	1MF	20%	50V
C513	1-123-380-00	ELECT	1MF	20%	50V
C514	1-161-019-00	CERAMIC	0.033MF	10%	25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C515	1-131-343-00	TANTALUM	0.22MF	20%	35V
C516	1-123-356-00	ELECT	10MF	20%	50V
C517	1-161-019-00	CERAMIC	0.033MF	10%	25V
C518	1-161-019-00	CERAMIC	0.033MF	10%	25V
C519	1-131-343-00	TANTALUM	0.22MF	20%	35V
C520	1-123-380-00	ELECT	1MF	20%	50V
C521	1-123-380-00	ELECT	1MF	20%	50V
C522	1-131-450-00	TANTALUM	1MF	20%	50V
C523	1-131-450-00	TANTALUM	1MF	20%	50V
C524	1-131-450-00	TANTALUM	1MF	20%	50V
C525	1-131-450-00	TANTALUM	1MF	20%	50V
C526	1-131-450-00	TANTALUM	1MF	20%	50V
C527	1-161-019-00	CERAMIC	0.033MF	10%	25V
C528	1-123-356-00	ELECT	10MF	20%	50V
C529	1-123-380-00	ELECT	1MF	20%	50V
C530	1-123-380-00	ELECT	1MF	20%	50V
C531	1-161-019-00	CERAMIC	0.033MF	10%	25V
C532	1-161-019-00	CERAMIC	0.033MF	10%	25V
C533	1-161-019-00	CERAMIC	0.033MF	10%	25V
C534	1-161-019-00	CERAMIC	0.033MF	10%	25V
C535	1-161-019-00	CERAMIC	0.033MF	10%	25V
C536	1-131-450-00	TANTALUM	1MF	20%	50V
C537	1-124-072-00	ELECT	470MF	20%	10V
C538	1-161-019-00	CERAMIC	0.033MF	10%	25V
C539	1-124-072-00	ELECT	470MF	20%	10V
C540	1-161-019-00	CERAMIC	0.033MF	10%	25V
C541	1-161-019-00	CERAMIC	0.033MF	10%	25V
C542	1-102-971-00	CERAMIC	82PF	5%	50V
C543	1-161-019-00	CERAMIC	0.033MF	10%	25V
C544	1-161-019-00	CERAMIC	0.033MF	10%	25V
C545	1-102-971-00	CERAMIC	82PF	5%	50V
C546	1-131-450-00	TANTALUM	1MF	20%	50V
C547	1-161-019-00	CERAMIC	0.033MF	10%	25V
C548	1-161-019-00	CERAMIC	0.033MF	10%	25V
C549	1-161-019-00	CERAMIC	0.033MF	10%	25V
C550	1-102-973-00	CERAMIC	100PF	5%	50V
C551	1-131-450-00	TANTALUM	1MF	20%	50V
C552	1-102-157-00	CERAMIC	560PF	10%	500V
C553	1-161-019-00	CERAMIC	0.033MF	10%	25V
C554	1-161-019-00	CERAMIC	0.033MF	10%	25V
C555	1-161-019-00	CERAMIC	0.033MF	10%	25V
C556	1-131-450-00	TANTALUM	1MF	20%	50V
C557	1-123-380-00	ELECT	1MF	20%	50V
C558	1-131-344-00	TANTALUM	0.33MF	10%	35V
C559	1-131-346-00	TANTALUM	0.68MF	10%	35V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C560	1-131-350-00	TANTALUM	3.3MF	10%	35V
C561	1-131-347-00	TANTALUM	1MF	20%	35V
C562	1-131-347-00	TANTALUM	1MF	20%	35V
C563	1-131-520-00	TANTALUM	22MF	20%	16V
C564	1-161-019-00	CERAMIC	0.033MF	10%	25V
C565	1-101-361-00	CERAMIC	150PF	5%	50V
C566	1-102-963-00	CERAMIC	33PF	5%	50V
C567	1-102-950-00	CERAMIC	13PF	5%	50V
C568	1-161-019-00	CERAMIC	0.033MF	10%	25V
C569	1-161-019-00	CERAMIC	0.033MF	10%	25V
C570	1-131-450-00	TANTALUM	1MF	20%	50V
C571	1-102-973-00	CERAMIC	100PF	5%	50V
C572	1-131-450-00	TANTALUM	1MF	20%	50V
C573	1-131-522-00	TANTALUM	10MF	20%	25V
C574	1-131-522-00	TANTALUM	10MF	20%	25V
C576	1-131-347-00	TANTALUM	1MF	20%	35V
C577	1-123-682-00	ELECT	100MF	20%	16V
C578	1-131-347-00	TANTALUM	1MF	20%	35V
C579	1-123-682-00	ELECT	100MF	20%	16V
C580	1-131-347-00	TANTALUM	1MF	20%	35V
C581	1-102-937-00	CERAMIC	4PF	0.25PF	50V
C582	1-161-019-00	CERAMIC	0.033MF	10%	25V
C583	1-161-013-00	CERAMIC	0.01MF	10%	25V
C584	1-131-347-00	TANTALUM	1MF	20%	35V
C585	1-131-347-00	TANTALUM	1MF	20%	35V
C586	1-161-013-00	CERAMIC	0.01MF	10%	25V
C587	1-161-019-00	CERAMIC	0.033MF	10%	25V
C588	1-161-019-00	CERAMIC	0.033MF	10%	25V
C590	1-123-298-00	ELECT	470MF	20%	6.3V
C591	1-123-298-00	ELECT	470MF	20%	6.3V
C592	1-123-298-00	ELECT	470MF	20%	6.3V
C593	1-123-298-00	ELECT	470MF	20%	6.3V
C596	1-161-271-00	CERAMIC	100PF	5%	50V
C597	1-161-323-00	CERAMIC	0.001MF	10%	50V
C598	1-161-323-00	CERAMIC	0.001MF	10%	50V
C599	1-102-716-00	(PAL/SECAM)...CERAMIC	12PF	5%	50V
C599	1-161-315-00	(NTSC).....CERAMIC	220PF	10%	50V
C601	1-123-380-00	ELECT	1MF	20%	50V
C602	1-161-494-00	CERAMIC	0.022MF	30%	25V
C603	1-161-494-00	CERAMIC	0.022MF	30%	25V
C604	1-161-494-00	CERAMIC	0.022MF	30%	25V
C605	1-161-494-00	CERAMIC	0.022MF	30%	25V
C606	1-161-494-00	CERAMIC	0.022MF	30%	25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C607	1-161-285-00	CERAMIC	33PF	5%	50V
C608	1-161-285-00	CERAMIC	33PF	5%	50V
C609	1-161-494-00	CERAMIC	0.022MF	30%	25V
C610	1-161-494-00	CERAMIC	0.022MF	30%	25V
C611	1-161-279-00	CERAMIC	10PF	5%	50V
C612	1-161-279-00	CERAMIC	10PF	5%	50V
C613	1-161-279-00	CERAMIC	10PF	5%	50V
C614	1-161-494-00	CERAMIC	0.022MF	30%	25V
C701	1-161-494-00	CERAMIC	0.022MF	30%	25V
C801	1-123-330-00	ELECT	22MF	20%	25V
C802	1-123-330-00	ELECT	22MF	20%	25V
C803	1-130-634-00	FILM	0.15MF	5%	50V
C804	1-130-634-00	FILM	0.15MF	5%	50V
C805	1-123-307-00	ELECT	100MF	20%	10V
C806	1-123-307-00	ELECT	100MF	20%	10V
C807	1-123-332-00	ELECT	47MF	20%	25V
C808	1-123-356-00	ELECT	10MF	20%	50V
C809	1-123-299-00	ELECT	1000MF	20%	6.3V
C810	1-123-369-00	ELECT	4.7MF	20%	50V
C811	1-123-307-00	ELECT	100MF	20%	10V
C812	1-130-632-00	FILM	0.1MF	5%	50V
C813	1-123-356-00	ELECT	10MF	20%	50V
C814	1-123-671-00	ELECT	100MF	20%	10V
C815	1-123-332-00	ELECT	47MF	20%	25V
C816	1-123-381-00	ELECT	2.2MF	20%	50V
C817	1-123-680-00	ELECT	33MF	20%	16V
C818	1-123-680-00	ELECT	33MF	20%	16V
C819	1-123-330-00	ELECT	22MF	20%	25V
C820	1-123-330-00	ELECT	22MF	20%	25V
C821	1-123-325-00	ELECT	2200MF	20%	16V
C822	1-123-325-00	ELECT	2200MF	20%	16V
C823	1-123-325-00	ELECT	2200MF	20%	16V
C824	1-123-325-00	ELECT	2200MF	20%	16V
C825	1-123-325-00	ELECT	2200MF	20%	16V
C826	1-123-349-00	ELECT	1000MF	20%	35V
C827	1-123-356-00	ELECT	10MF	20%	50V
C828 ⚠	1-123-363-00	ELECT	470MF	20%	50V
C829	1-130-632-00	FILM	0.1MF	5%	50V
C830 ⚠	1-123-696-00	ELECT	470MF	20%	25V
C831 ⚠	1-123-696-00	ELECT	470MF	20%	25V
C832	1-123-325-00	ELECT	2200MF	20%	16V
C833	1-123-369-00	ELECT	4.7MF	20%	50V
C836	1-161-315-00	CERAMIC	220PF	10%	50V
C837	1-161-494-00	CERAMIC	0.022MF	30%	25V
C901	1-102-514-00	CERAMIC	22PF	5%	50V

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MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
C902	1-102-514-00	CERAMIC 22PF 5% 50V
C903	1-102-514-00	CERAMIC 22PF 5% 50V
C1102	1-161-734-00	(AEP,UK)...CERAMIC 2200PF 20% 400V
C1103	1-161-734-00	(AEP,UK)...CERAMIC 2200PF 20% 400V
C1104	1-161-734-00	(AEP,UK)...CERAMIC 2200PF 20% 400V
C1105	1-161-734-00	(AEP,UK)...CERAMIC 2200PF 20% 400V
C1201⚠	1-130-234-00	(US)...FILM 0.047MF 20% 125V
C1201⚠	1-161-744-00	(AEP,UK).....CERAMIC 10000PF 400V
C1201⚠	1-161-749-00	(Canadian)...CERAMIC 10000PF 125V
CF601	1-527-822-21	OSCILLATOR, CERAMIC
CN1	♦;1-560-708-00	PIN, CONNECTOR 2P
CN2	♦;1-560-604-00	PIN, CONNECTOR 5P
CN3	♦;1-560-603-00	PIN, CONNECTOR 4P
CN4	♦;1-560-708-00	PIN, CONNECTOR 2P
CN5	♦;1-560-602-00	PIN, CONNECTOR 3P
CN6	♦;1-560-602-00	PIN, CONNECTOR 3P
♦CNP101	;1-560-708-00	PIN, CONNECTOR 2P
♦CNP201	;1-560-708-00	PIN, CONNECTOR 2P
♦CNP301	;1-560-708-00	PIN, CONNECTOR 2P
♦CNP302	;1-560-708-00	PIN, CONNECTOR 2P
♦CNP303	;1-560-708-00	PIN, CONNECTOR 2P
♦CNP304	;1-560-602-00	PIN, CONNECTOR 3P
♦CNP305	;1-560-602-00	PIN, CONNECTOR 3P
♦CNP604	;1-560-708-00	PIN, CONNECTOR 2P
♦CNP605	;1-560-708-00	PIN, CONNECTOR 2P
♦CNP606	;1-560-605-00	PIN, CONNECTOR 6P
⚠CP1201	.1-231-326-11	(US).....ENCAPSULATED COMPONENT
⚠CP1201	.1-231-341-00	(Canadian)...SPARK KILLER
⚠CP1201	.1-161-744-00	(AEP,UK).....CERAMIC 10000PF 400V
CT589	1-141-232-00	CAP, TRIMAR 11PF
D101	8-719-224-11	DIODE 1OYD2.4A
D102	8-719-201-11	DIODE 1OYG1.1
D103	8-719-910-65	DIODE HZ6B2L
D105	8-719-911-19	DIODE 1SS119
D107	8-719-910-65	DIODE HZ6B2L
D108	8-719-201-11	DIODE 1OYG1.1
D201	8-719-224-11	DIODE 1OYD2.4A
D202	8-719-201-11	DIODE 1OYG1.1
D203	8-719-910-65	DIODE HZ6B2L
D205	8-719-911-19	DIODE 1SS119
D207	8-719-910-65	DIODE HZ6B2L
D208	8-719-201-11	DIODE 1OYG1.1
D301	8-719-911-50	DIODE HZ5C1
D302	8-719-911-50	DIODE HZ5C1
D303	8-719-911-50	DIODE HZ5C1

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D304	8-719-911-50	DIODE HZ5C1
D305	8-719-911-19	DIODE 1SS119
D306	8-719-911-19	DIODE 1SS119
D307	8-719-911-19	DIODE 1SS119
D308	8-719-911-19	DIODE 1SS119
D309	8-719-911-19	DIODE 1SS119
D310	8-719-910-65	DIODE HZ6B2L
D401	8-719-200-02	DIODE 10E-2
D402	8-719-201-11	DIODE 1OYG1.1
D403	8-719-201-11	DIODE 1OYG1.1
D404⚠	.8-719-999-62	DIODE EQA01-06S2
D405	8-719-906-94	DIODE EQA01-19R2
D406	8-719-200-02	DIODE 10E-2
D407	8-719-201-11	DIODE 1OYG1.1
D408	8-719-201-11	DIODE 1OYG1.1
D409⚠	.8-719-999-62	DIODE EQA01-06S2
D410	8-719-906-94	DIODE EQA01-19R2
D501	8-719-911-19	DIODE 1SS119
D502	8-719-911-19	DIODE 1SS119
D503	8-719-911-19	DIODE 1SS119
D504	8-719-911-19	DIODE 1SS119
D505	8-719-911-19	DIODE 1SS119
D506	8-719-911-19	DIODE 1SS119
D507	8-719-910-75	DIODE HZ7B2L
D508	8-719-911-19	DIODE 1SS119
D509	8-719-911-19	DIODE 1SS119
D510	8-719-911-19	DIODE 1SS119
D511	8-719-915-43	DIODE FC54M
D512	8-719-911-19	DIODE 1SS119
D513	8-719-911-19	DIODE 1SS119
D514	8-719-911-19	DIODE 1SS119
D601	8-719-911-19	DIODE 1SS119
D602	8-719-911-19	DIODE 1SS119
D603	8-719-911-19	DIODE 1SS119
D604	8-719-911-19	DIODE 1SS119
D605	8-719-911-19	DIODE 1SS119
D701	8-719-911-19	DIODE 1SS119
D702	8-719-911-19	DIODE 1SS119
D703	8-719-911-19	DIODE 1SS119
D704	8-719-911-19	DIODE 1SS119
D705	8-719-902-77	DIODE SLR-34PC5
D706	8-719-902-78	DIODE SLR-34DC5
D801	8-719-815-55	DIODE 1S1555
D802	8-719-815-55	DIODE 1S1555
D803	8-719-815-55	DIODE 1S1555

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D804	8-719-815-55	DIODE 1S1555
D805	8-719-815-55	DIODE 1S1555
D806	8-719-815-55	DIODE 1S1555
D809	8-719-200-02	DIODE 10E-2
D810	8-719-200-02	DIODE 10E-2
D811	8-719-901-61	DIODE HZ16-1L
D812	8-719-815-55	DIODE 1S1555
D814	8-719-815-55	DIODE 1S1555
D815	8-719-815-55	DIODE 1S1555
D816	8-719-200-02	DIODE 10E-2
D817	8-719-200-02	DIODE 10E-2
D818	8-719-200-02	DIODE 10E-2
D819	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D819	9-982-272-00	(Canadian)....DIODE 11DQ04
D820	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D820	9-982-272-00	(Canadian)....DIODE 11DQ04
D821	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D821	9-982-272-00	(Canadian)....DIODE 11DQ04
D822	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D822	9-982-272-00	(Canadian)....DIODE 11DQ04
D823	8-719-993-31	DIODE EQA01-33R2
D824	8-719-210-12	DIODE 10DF2
D825	8-719-210-12	DIODE 10DF2
D826	8-719-210-12	DIODE 10DF2
D827	8-719-210-12	DIODE 10DF2
D828	8-719-931-10	DIODE EQB01-10
D829	8-719-211-02	DIODE PB102F
D831	8-719-815-55	DIODE 1S1555
D832	8-719-815-55	DIODE 1S1555
D833	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D833	9-982-272-00	(Canadian)....DIODE 11DQ04
D834	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D834	9-982-272-00	(Canadian)....DIODE 11DQ04
D1201	8-719-910-67	DIODE HZ6C1L
F1201⚠	.1-532-259-00	(AEP,UK).....FUSE, TIME-LAG
F1201⚠	.1-532-555-00	(US,Canadian)..FUSE, GLASS TUBE
F1202⚠	.1-532-259-00	(AEP,UK).....FUSE, TIME-LAG
F1202⚠	.1-532-555-00	(US,Canadian)..FUSE, GLASS TUBE
F1203⚠	.1-532-215-00	(AEP,UK).....FUSE, TIME-LAG
F1203⚠	.1-532-684-00	(US,Canadian)..FUSE, GLASS TUBE
FL601	1-519-281-00	INDICATOR TUBE, FLUORESCENT
IC101	8-759-905-42	IC NE5534P
IC102	8-759-993-53	IC LF353H
IC103	8-759-993-53	IC LF353H

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC104	8-758-990-00	IC CX-899
IC105	8-759-981-00	IC TL081CP
IC106	8-759-993-53	IC LF353H
IC107	8-759-903-56	IC LF356H
IC108	8-759-145-58	IC UPC4558C
IC201	8-759-905-42	IC NE5534P
IC202	8-759-993-53	IC LF353H
IC203	8-759-993-53	IC LF353H
IC204	8-758-990-00	IC CX-899
IC205	8-759-981-00	IC TL081CP
IC206	8-759-993-53	IC LF353H
IC207	8-759-903-56	IC LF356H
IC208	8-759-145-58	IC UPC4558C
IC301	8-759-171-05	IC UPC7805H
IC302	8-759-179-05	IC UPC7905H
IC303	8-759-200-05	IC TC40H008P
IC304	8-752-001-70	IC CX20017
IC305	8-759-140-53	IC UPD4053BC
IC306	8-759-745-56	IC NJM4556D
IC307	8-759-900-04	IC SN74LS04N
IC401	8-759-700-49	IC NJM5532P-A
IC501	8-759-903-55	IC LF357H
IC502	8-759-903-55	IC LF357H
IC503	8-759-993-53	IC LF353H
IC504	8-759-103-19	IC UPC319C
IC505	8-759-979-14	IC CX-7914
IC506	8-759-245-05	IC TM4505P
IC507	8-759-901-28	IC MSM5128-12RS
IC508	8-759-178-50	IC UPD785C
IC509	8-759-901-28	IC MSM5128-12RS
IC510	8-759-900-69	IC SN74ALS74N
IC511	8-759-240-24	IC TC4024BP
IC512	8-759-900-67	IC SN74ALS02N
IC513	8-759-900-67	IC SN74ALS02N
IC514	8-759-220-32	IC TC40H032P
IC515	8-759-245-28	IC TC4528BP
IC516	8-759-900-69	IC SN74ALS74N
IC517	8-759-221-64	IC TC40H164P
IC518	8-759-221-64	IC TC40H164P
IC519	8-759-220-74	IC TC40H074P
IC520	8-759-220-74	IC TC40H074P
IC521	8-759-220-74	IC TC40H074P
IC522	8-759-901-63	IC SN74LS163AN
IC523	8-759-901-64	IC SN74LS164N
IC524	8-759-200-09	IC TC40H393P

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PCM-701ES

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D804	8-719-815-55	DIODE 1S1555
D805	8-719-815-55	DIODE 1S1555
D806	8-719-815-55	DIODE 1S1555
D809	8-719-200-02	DIODE 10E-2
D810	8-719-200-02	DIODE 10E-2
D811	8-719-901-61	DIODE HZ16-1L
D812	8-719-815-55	DIODE 1S1555
D814	8-719-815-55	DIODE 1S1555
D815	8-719-815-55	DIODE 1S1555
D816	8-719-200-02	DIODE 10E-2
D817	8-719-200-02	DIODE 10E-2
D818	8-719-200-02	DIODE 10E-2
D819	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D819	9-982-272-00	(Canadian)....DIODE 11DQ04
D820	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D820	9-982-272-00	(Canadian)....DIODE 11DQ04
D821	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D821	9-982-272-00	(Canadian)....DIODE 11DQ04
D822	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D822	9-982-272-00	(Canadian)....DIODE 11DQ04
D823	8-719-993-31	DIODE EQA01-33R2
D824	8-719-210-12	DIODE 10DF2
D825	8-719-210-12	DIODE 10DF2
D826	8-719-210-12	DIODE 10DF2
D827	8-719-210-12	DIODE 10DF2
D828	8-719-931-10	DIODE EQB01-10
D829	8-719-211-02	DIODE PB102F
D831	8-719-815-55	DIODE 1S1555
D832	8-719-815-55	DIODE 1S1555
D833	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D833	9-982-272-00	(Canadian)....DIODE 11DQ04
D834	8-719-210-12	(US,AEP,UK)...DIODE 10DF2
D834	9-982-272-00	(Canadian)....DIODE 11DQ04
D1201	8-719-910-67	DIODE HZ6C1L
F1201⚠	1-532-259-00	(AEP,UK).....FUSE, TIME-LAG
F1201⚠	1-532-555-00	(US,Canadian)..FUSE, GLASS TUBE
F1202⚠	1-532-259-00	(AEP,UK).....FUSE, TIME-LAG
F1202⚠	1-532-555-00	(US,Canadian)..FUSE, GLASS TUBE
F1203⚠	1-532-215-00	(AEP,UK).....FUSE, TIME-LAG
F1203⚠	1-532-684-00	(US,Canadian)..FUSE, GLASS TUBE
FL601	1-519-281-00	INDICATOR TUBE, FLUORESCENT
IC101	8-759-905-42	IC NE5534P
IC102	8-759-993-53	IC LF353H
IC103	8-759-993-53	IC LF353H

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC104	8-758-990-00	IC CX-899
IC105	8-759-981-00	IC TL081CP
IC106	8-759-993-53	IC LF353H
IC107	8-759-903-56	IC LF356H
IC108	8-759-145-58	IC UPC4558C
IC201	8-759-905-42	IC NE5534P
IC202	8-759-993-53	IC LF353H
IC203	8-759-993-53	IC LF353H
IC204	8-758-990-00	IC CX-899
IC205	8-759-981-00	IC TL081CP
IC206	8-759-993-53	IC LF353H
IC207	8-759-903-56	IC LF356H
IC208	8-759-145-58	IC UPC4558C
IC301	8-759-171-05	IC UPC7805H
IC302	8-759-179-05	IC UPC7905H
IC303	8-759-200-05	IC TC40H008P
IC304	8-752-001-70	IC CX20017
IC305	8-759-140-53	IC UPD4053BC
IC306	8-759-745-56	IC NJM4556D
IC307	8-759-900-04	IC SN74LS04N
IC401	8-759-700-49	IC NJM5532P-A
IC501	8-759-903-55	IC LF357H
IC502	8-759-903-55	IC LF357H
IC503	8-759-993-53	IC LF353H
IC504	8-759-103-19	IC UPC319C
IC505	8-759-979-14	IC CX-7914
IC506	8-759-245-05	IC TM4505P
IC507	8-759-901-28	IC MSM5128-12RS
IC508	8-759-178-50	IC UPD785C
IC509	8-759-901-28	IC MSM5128-12RS
IC510	8-759-900-69	IC SN74ALS74N
IC511	8-759-240-24	IC TC4024BP
IC512	8-759-900-67	IC SN74ALS02N
IC513	8-759-900-67	IC SN74ALS02N
IC514	8-759-220-32	IC TC40H032P
IC515	8-759-245-28	IC TC4528BP
IC516	8-759-900-69	IC SN74ALS74N
IC517	8-759-221-64	IC TC40H164P
IC518	8-759-221-64	IC TC40H164P
IC519	8-759-220-74	IC TC40H074P
IC520	8-759-220-74	IC TC40H074P
IC521	8-759-220-74	IC TC40H074P
IC522	8-759-901-63	IC SN74LS163AN
IC523	8-759-901-64	IC SN74LS164N
IC524	8-759-200-09	IC TC40H393P

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC525	8-759-241-63	IC TC40163BP
IC526	8-759-901-63	IC SN74LS163AN
IC527	8-759-220-74	IC TC40H074P
IC528	8-759-240-29	IC TC4029BP
IC529	8-759-901-57	IC SN74LS157N
IC530	8-759-245-28	IC TC4528BP
IC531	8-759-990-72	IC TL072CP
IC532	8-759-200-05	IC TC40H008P
IC533	8-759-904-14	IC SN74ALS04N
IC534	8-759-200-08	IC TC40H367P
IC535	8-759-900-04	IC SN74LS04N
IC536	8-759-178-15	IC UPC78L15
IC537	8-759-220-02	IC TC40H002P
IC538	8-759-200-05	IC TC40H008P
IC539	8-759-200-05	IC TC40H008P
IC540	8-759-900-27	IC SN74LS27N
IC541	8-759-974-06	IC SN7406N
IC550	8-759-905-69	IC NE564N
IC551	8-759-904-98	IC 74LS169PC
IC552	8-759-904-98	IC 74LS169PC
IC553	8-759-904-98	IC 74LS169PC
IC554	8-759-904-98	IC 74LS169PC
IC555	8-759-900-69	IC SN74ALS74N
IC601	8-759-906-34	IC MSM58422-15GS
IC602	8-759-729-03	IC NJM2903D
IC603	8-759-240-69	IC TC4069UBP
IC604	8-759-909-15	IC MSL915RS
IC801	8-759-145-57	IC UPC4557C
IC802	8-759-240-66	IC TC4066BP
IC803	8-759-700-16	IC NJM78M15A
IC805	8-759-700-25	IC NJM79M15A
IC1001	8-759-179-05	IC UPC7905H
J301	1-507-898-00	JACK (2P), PIN
J302	1-507-898-00	JACK (2P), PIN
J303	1-507-898-00	JACK (2P), PIN
J304	1-507-898-00	JACK (2P), PIN
J305	1-507-649-00	JACK
L501	1-407-169-XX	MICRO INDUCTOR 100UH
L502	1-407-169-XX	MICRO INDUCTOR 100UH
L503	1-426-090-00	TRANSFORMER, RF
L504	1-407-163-XX	MICRO INDUCTOR 33UH
L505	1-459-379-00	COIL (WITH CORE)
L506	1-407-163-XX	MICRO INDUCTOR 33UH

ELECTRICAL PARTS

Ref.No.	Part No.	Description
⚠L1101	1-421-340-00	(AEP,UK).....LINE FILTER
⚠LF1101	1-421-597-00	(US).....LINE FILTER
⚠LF1101	1-421-627-00	(Canadian)...LINE FILTER
LPF101	1-464-170-00	FILTER, LOW PASS
LPF102	1-464-170-00	FILTER, LOW PASS
LPF201	1-464-170-00	FILTER, LOW PASS
LPF202	1-464-170-00	FILTER, LOW PASS
PC801⚠	1-532-605-00	PROTECTCR, CIRCUIT
PC802⚠	1-532-605-00	PROTECTCR, CIRCUIT
Q101	8-765-640-10	TRANSISTOR 2SK244
Q102	8-765-422-00	TRANSISTOR 2SK152-2
Q103	8-765-422-00	TRANSISTOR 2SK152-2
Q104	8-729-663-48	TRANSISTOR 2SC1364-8
Q201	8-765-640-10	TRANSISTOR 2SK244
Q202	8-765-422-00	TRANSISTOR 2SK152-2
Q203	8-765-422-00	TRANSISTOR 2SK152-2
Q204	8-729-663-48	TRANSISTOR 2SC1364-8
Q401	8-729-194-57	TRANSISTOR 2SC945-P
Q402	8-729-107-53	TRANSISTOR 2SC2275A
Q403	8-729-364-62	TRANSISTOR 2SB646A
Q404	8-729-364-62	TRANSISTOR 2SB646A
Q405	8-729-364-62	TRANSISTOR 2SB646A
Q406	8-719-612-77	TRANSISTOR 2SA1027R
Q407	8-729-190-53	TRANSISTOR 2SA985A
Q408	8-729-300-62	TRANSISTOR 2SD666A
Q409	8-729-300-62	TRANSISTOR 2SD666A
Q410	8-729-300-62	TRANSISTOR 2SD666A
Q501	8-769-132-00	TRANSISTOR 2SK121-2
Q502	8-729-194-57	TRANSISTOR 2SC945-P
Q503	8-769-132-00	TRANSISTOR 2SK121-2
Q504	8-729-612-77	TRANSISTOR 2SA1027R
Q505	8-729-194-57	TRANSISTOR 2SC945-P
Q506	8-729-194-57	TRANSISTOR 2SC945-P
Q507	8-729-612-77	TRANSISTOR 2SA1027R
Q508	8-729-194-57	TRANSISTOR 2SC945-P
Q509	8-729-194-57	TRANSISTOR 2SC945-P
Q510	8-729-194-57	TRANSISTOR 2SC945-P
Q511	8-729-194-57	TRANSISTOR 2SC945-P
Q513	8-729-194-57	TRANSISTOR 2SC945-P
Q514	8-729-612-77	TRANSISTOR 2SA1027R
Q515	8-729-194-57	TRANSISTOR 2SC945-P
Q516	8-729-194-57	TRANSISTOR 2SC945-P
Q517	8-729-194-57	TRANSISTOR 2SC945-P
Q518	8-729-671-14	TRANSISTOR 2SC710-14
Q519	8-729-671-14	TRANSISTOR 2SC710-14

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CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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PCM-701ES

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q520	8-729-671-14	TRANSISTOR 2SC710-14
Q521	8-729-194-57	TRANSISTOR 2SC945-P
Q522	8-769-200-30	TRANSISTOR 2SK107-3
Q523	8-729-194-57	TRANSISTOR 2SC945-P
Q524	8-725-923-00	TRANSISTOR 2SC1129
Q525	8-769-112-00	TRANSISTOR 2SK120-2
Q526	8-729-194-57	TRANSISTOR 2SC945-P
Q527	8-729-671-14	TRANSISTOR 2SC710-14
Q528	8-729-671-14	TRANSISTOR 2SC710-14
Q529	8-729-671-14	TRANSISTOR 2SC710-14
Q601	8-729-993-72	TRANSISTOR 2SA937
Q602	8-729-993-72	TRANSISTOR 2SA937
Q603	8-729-993-72	TRANSISTOR 2SA937
Q604	8-729-993-72	TRANSISTOR 2SA937
Q605	8-729-902-11	TRANSISTOR 2SC2021
Q606	8-729-902-11	TRANSISTOR 2SC2021
Q701	8-729-902-11	TRANSISTOR 2SC2021
Q702	8-729-902-11	TRANSISTOR 2SC2021
Q703	8-729-902-11	TRANSISTOR 2SC2021
Q801	8-729-194-56	TRANSISTOR 2SC1364
Q802	8-729-194-56	TRANSISTOR 2SC1364
Q803	8-729-612-77	TRANSISTOR 2SA1027R
Q804	8-729-612-77	TRANSISTOR 2SA1027R
Q805	8-729-612-77	TRANSISTOR 2SA1027R
Q806	8-729-612-77	TRANSISTOR 2SA1027R
Q807	8-729-612-77	TRANSISTOR 2SA1027R
Q808	8-729-612-77	TRANSISTOR 2SA1027R
Q809	8-729-663-47	TRANSISTOR 2SC1364
Q810	8-729-612-77	TRANSISTOR 2SA1027R
Q811	8-729-384-46	TRANSISTOR 2SA844
Q812	8-729-663-47	TRANSISTOR 2SC1364
Q813	8-729-663-47	TRANSISTOR 2SC1364
Q815	8-729-612-77	TRANSISTOR 2SA1027R
Q816	8-729-663-47	TRANSISTOR 2SC1364
Q817	8-729-612-77	TRANSISTOR 2SA1027R
Q819	8-729-154-83	TRANSISTOR 2SB548
Q822	8-729-663-47	TRANSISTOR 2SC1364
Q1001	8-729-313-32	TRANSISTOR 2SD1133
Q1201	8-729-141-43	TRANSISTOR 2SD414
R101	1-214-832-00	METAL 47 1% 1/2W
R102	1-214-931-00	METAL 560K 1% 1/2W
R103	1-214-882-00	METAL 5.6K 1% 1/2W
R104	1-214-882-00	METAL 5.6K 1% 1/2W
R106	1-214-737-00	METAL 2.2K 1% 1/4W
R107	1-214-860-00	METAL 680 1% 1/2W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R108	1-214-850-00	METAL 270 1% 1/2W
R109	1-214-885-00	METAL 7.5K 1% 1/2W
R110	1-214-885-00	METAL 7.5K 1% 1/2W
R111	1-214-888-00	METAL 10K 1% 1/2W
R112	1-214-888-00	METAL 10K 1% 1/2W
R113	1-214-753-00	METAL 10K 1% 1/4W
R114	1-214-888-00	METAL 10K 1% 1/2W
R116	1-214-868-00	METAL 1.5K 1% 1/2W
R117	1-214-897-00	METAL 22K 1% 1/2W
R119	1-247-841-00	CARBON 2.7K 5% 1/6W
R120	1-214-729-00	METAL 1K 1% 1/4W
R121	1-214-729-00	METAL 1K 1% 1/4W
R122	1-214-729-00	METAL 1K 1% 1/4W
R123	1-214-773-00	METAL 68K 1% 1/4W
R124	1-214-753-00	METAL 10K 1% 1/4W
R125	1-247-807-00	CARBON 100 5% 1/6W
R126	1-247-854-00	CARBON 9.1K 5% 1/6W
R127	1-214-777-00	METAL 100K 1% 1/4W
R128	1-247-835-00	CARBON 1.5K 5% 1/6W
R129	1-247-855-00	CARBON 10K 5% 1/6W
R130	1-247-879-00	CARBON 100K 5% 1/6W
R131	1-247-857-00	CARBON 12K 5% 1/6W
R132	1-214-893-00	METAL 16K 1% 1/2W
R133	1-214-763-00	METAL 27K 1% 1/4W
R134	1-214-892-00	METAL 15K 1% 1/2W
R135	1-214-880-00	METAL 4.7K 1% 1/2W
R136	1-214-890-00	METAL 12K 1% 1/2W
R137	1-214-862-00	METAL 820 1% 1/2W
R138	1-214-929-00	METAL 470K 1% 1/2W
R139	1-214-913-00	METAL 100K 1% 1/2W
R140	1-214-844-00	METAL 150 1% 1/2W
R142	1-214-777-00	METAL 100K 1% 1/4W
R143	1-214-765-00	METAL 33K 1% 1/4W
R144	1-214-158-00	METAL 12K 1% 1/4W
R145	1-214-151-00	METAL 6.2K 1% 1/4W
R146	1-214-143-00	METAL 3K 1% 1/4W
R147	1-214-136-00	METAL 1.5K 1% 1/4W
R148	1-214-136-00	METAL 1.5K 1% 1/4W
R149	1-214-180-00	METAL 100K 1% 1/4W
R150	1-214-152-00	METAL 6.8K 1% 1/4W
R151	1-214-180-00	METAL 100K 1% 1/4W
R152	1-214-116-00	METAL 220 1% 1/4W
R153	1-247-863-00	CARBON 22K 5% 1/6W
R154	1-214-773-00	METAL 68K 1% 1/4W
R155	1-247-833-00	CARBON 1.2K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R156	1-247-879-00	CARBON 100K 5% 1/6W
R157	1-247-849-00	CARBON 5.6K 5% 1/6W
R158	1-247-849-00	CARBON 5.6K 5% 1/6W
R159	1-247-825-00	CARBON 560 5% 1/6W
R160	1-247-825-00	CARBON 560 5% 1/6W
R161	1-214-901-00	METAL 33K 1% 1/2W
R162	1-214-880-00	METAL 4.7K 1% 1/2W
R163	1-214-913-00	METAL 100K 1% 1/2W
R164	1-214-848-00	METAL 220 1% 1/2W
R201	1-214-832-00	METAL 47 1% 1/2W
R202	1-214-931-00	METAL 560K 1% 1/2W
R203	1-214-882-00	METAL 5.6K 1% 1/2W
R204	1-214-882-00	METAL 5.6K 1% 1/2W
R206	1-214-737-00	METAL 2.2K 1% 1/4W
R207	1-214-860-00	METAL 680 1% 1/2W
R208	1-214-850-00	METAL 270 1% 1/2W
R209	1-214-885-00	METAL 7.5K 1% 1/2W
R210	1-214-885-00	METAL 7.5K 1% 1/2W
R211	1-214-888-00	METAL 10K 1% 1/2W
R212	1-214-888-00	METAL 10K 1% 1/2W
R213	1-214-753-00	METAL 10K 1% 1/4W
R214	1-214-888-00	METAL 10K 1% 1/2W
R216	1-214-868-00	METAL 1.5K 1% 1/2W
R217	1-214-897-00	METAL 22K 1% 1/2W
R219	1-247-841-00	CARBON 2.7K 5% 1/6W
R220	1-214-729-00	METAL 1K 1% 1/4W
R221	1-214-729-00	METAL 1K 1% 1/4W
R222	1-214-729-00	METAL 1K 1% 1/4W
R223	1-214-773-00	METAL 68K 1% 1/4W
R224	1-214-753-00	METAL 10K 1% 1/4W
R225	1-247-807-00	CARBON 100 5% 1/6W
R226	1-247-854-00	CARBON 9.1K 5% 1/6W
R227	1-214-777-00	METAL 100K 1% 1/4W
R228	1-247-835-00	CARBON 1.5K 5% 1/6W
R229	1-247-855-00	CARBON 10K 5% 1/6W
R230	1-247-879-00	CARBON 100K 5% 1/6W
R231	1-247-857-00	CARBON 12K 5% 1/6W
R232	1-214-893-00	METAL 16K 1% 1/2W
R233	1-214-763-00	METAL 27K 1% 1/4W
R234	1-214-892-00	METAL 15K 1% 1/2W
R235	1-214-880-00	METAL 4.7K 1% 1/2W
R236	1-214-890-00	METAL 12K 1% 1/2W
R237	1-214-862-00	METAL 820 1% 1/2W
R238	1-214-929-00	METAL 470K 1% 1/2W
R239	1-214-913-00	METAL 100K 1% 1/2W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R240	1-214-844-00	METAL 150 1% 1/2W
R242	1-214-777-00	METAL 100K 1% 1/4W
R243	1-214-765-00	METAL 33K 1% 1/4W
R244	1-214-158-00	METAL 12K 1% 1/4W
R245	1-214-151-00	METAL 6.2K 1% 1/4W
R246	1-214-143-00	METAL 3K 1% 1/4W
R247	1-214-136-00	METAL 1.5K 1% 1/4W
R248	1-214-136-00	METAL 1.5K 1% 1/4W
R249	1-214-180-00	METAL 100K 1% 1/4W
R250	1-214-152-00	METAL 6.8K 1% 1/4W
R251	1-214-180-00	METAL 100K 1% 1/4W
R252	1-214-116-00	METAL 220 1% 1/4W
R253	1-247-863-00	CARBON 22K 5% 1/6W
R254	1-214-773-00	METAL 68K 1% 1/4W
R255	1-247-833-00	CARBON 1.2K 5% 1/6W
R256	1-247-879-00	CARBON 100K 5% 1/6W
R257	1-247-849-00	CARBON 5.6K 5% 1/6W
R258	1-247-849-00	CARBON 5.6K 5% 1/6W
R259	1-247-825-00	CARBON 560 5% 1/6W
R260	1-247-825-00	CARBON 560 5% 1/6W
R261	1-214-901-00	METAL 33K 1% 1/2W
R262	1-214-880-00	METAL 4.7K 1% 1/2W
R263	1-214-913-00	METAL 100K 1% 1/2W
R264	1-214-848-00	METAL 220 1% 1/2W
R308	1-247-847-00	CARBON 4.7K 5% 1/6W
R309	1-247-847-00	CARBON 4.7K 5% 1/6W
R310	1-247-847-00	CARBON 4.7K 5% 1/6W
R311	1-247-847-00	CARBON 4.7K 5% 1/6W
R312	1-247-841-00	CARBON 2.7K 5% 1/6W
R313	1-214-773-00	METAL 68K 1% 1/4W
R314 ⚠	1-212-857-00	FUSIBLE 10 5% 1/4W F
R315 ⚠	1-212-857-00	FUSIBLE 10 5% 1/4W F
R316	1-247-804-00	CARBON 75 5% 1/6W
R317	1-247-804-00	CARBON 75 5% 1/6W
R318	1-247-804-00	CARBON 75 5% 1/6W
R319	1-247-807-00	CARBON 100 5% 1/6W
R401	1-214-705-00	METAL 100 1% 1/4W
R402	1-214-884-00	METAL 6.8K 1% 1/2W
R403	1-214-880-00	METAL 4.7K 1% 1/2W
R404	1-214-705-00	METAL 100 1% 1/4W
R405	1-214-705-00	METAL 100 1% 1/4W
R406	1-214-884-00	METAL 6.8K 1% 1/2W
R407	1-214-880-00	METAL 4.7K 1% 1/2W
R408	1-214-705-00	METAL 100 1% 1/4W
R409	1-246-497-00	CARBON 10K 5% 1/4W

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- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

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ELECTRICAL PARTS

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R156	1-247-879-00	CARBON	100K	5%	1/6W
R157	1-247-849-00	CARBON	5.6K	5%	1/6W
R158	1-247-849-00	CARBON	5.6K	5%	1/6W
R159	1-247-825-00	CARBON	560	5%	1/6W
R160	1-247-825-00	CARBON	560	5%	1/6W
R161	1-214-901-00	METAL	33K	1%	1/2W
R162	1-214-880-00	METAL	4.7K	1%	1/2W
R163	1-214-913-00	METAL	100K	1%	1/2W
R164	1-214-848-00	METAL	220	1%	1/2W
R201	1-214-832-00	METAL	47	1%	1/2W
R202	1-214-931-00	METAL	560K	1%	1/2W
R203	1-214-882-00	METAL	5.6K	1%	1/2W
R204	1-214-882-00	METAL	5.6K	1%	1/2W
R206	1-214-737-00	METAL	2.2K	1%	1/4W
R207	1-214-860-00	METAL	680	1%	1/2W
R208	1-214-850-00	METAL	270	1%	1/2W
R209	1-214-885-00	METAL	7.5K	1%	1/2W
R210	1-214-885-00	METAL	7.5K	1%	1/2W
R211	1-214-888-00	METAL	10K	1%	1/2W
R212	1-214-888-00	METAL	10K	1%	1/2W
R213	1-214-753-00	METAL	10K	1%	1/4W
R214	1-214-888-00	METAL	10K	1%	1/2W
R216	1-214-868-00	METAL	1.5K	1%	1/2W
R217	1-214-897-00	METAL	22K	1%	1/2W
R219	1-247-841-00	CARBON	2.7K	5%	1/6W
R220	1-214-729-00	METAL	1K	1%	1/4W
R221	1-214-729-00	METAL	1K	1%	1/4W
R222	1-214-729-00	METAL	1K	1%	1/4W
R223	1-214-773-00	METAL	68K	1%	1/4W
R224	1-214-753-00	METAL	10K	1%	1/4W
R225	1-247-807-00	CARBON	100	5%	1/6W
R226	1-247-854-00	CARBON	9.1K	5%	1/6W
R227	1-214-777-00	METAL	100K	1%	1/4W
R228	1-247-835-00	CARBON	1.5K	5%	1/6W
R229	1-247-855-00	CARBON	10K	5%	1/6W
R230	1-247-879-00	CARBON	100K	5%	1/6W
R231	1-247-857-00	CARBON	12K	5%	1/6W
R232	1-214-893-00	METAL	16K	1%	1/2W
R233	1-214-763-00	METAL	27K	1%	1/4W
R234	1-214-892-00	METAL	15K	1%	1/2W
R235	1-214-880-00	METAL	4.7K	1%	1/2W
R236	1-214-890-00	METAL	12K	1%	1/2W
R237	1-214-862-00	METAL	820	1%	1/2W
R238	1-214-929-00	METAL	470K	1%	1/2W
R239	1-214-913-00	METAL	100K	1%	1/2W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R240	1-214-844-00	METAL	150	1%	1/2W
R242	1-214-777-00	METAL	100K	1%	1/4W
R243	1-214-765-00	METAL	33K	1%	1/4W
R244	1-214-158-00	METAL	12K	1%	1/4W
R245	1-214-151-00	METAL	6.2K	1%	1/4W
R246	1-214-143-00	METAL	3K	1%	1/4W
R247	1-214-136-00	METAL	1.5K	1%	1/4W
R248	1-214-136-00	METAL	1.5K	1%	1/4W
R249	1-214-180-00	METAL	100K	1%	1/4W
R250	1-214-152-00	METAL	6.8K	1%	1/4W
R251	1-214-180-00	METAL	100K	1%	1/4W
R252	1-214-116-00	METAL	220	1%	1/4W
R253	1-247-863-00	CARBON	22K	5%	1/6W
R254	1-214-773-00	METAL	68K	1%	1/4W
R255	1-247-833-00	CARBON	1.2K	5%	1/6W
R256	1-247-879-00	CARBON	100K	5%	1/6W
R257	1-247-849-00	CARBON	5.6K	5%	1/6W
R258	1-247-849-00	CARBON	5.6K	5%	1/6W
R259	1-247-825-00	CARBON	560	5%	1/6W
R260	1-247-825-00	CARBON	560	5%	1/6W
R261	1-214-901-00	METAL	33K	1%	1/2W
R262	1-214-880-00	METAL	4.7K	1%	1/2W
R263	1-214-913-00	METAL	100K	1%	1/2W
R264	1-214-848-00	METAL	220	1%	1/2W
R308	1-247-847-00	CARBON	4.7K	5%	1/6W
R309	1-247-847-00	CARBON	4.7K	5%	1/6W
R310	1-247-847-00	CARBON	4.7K	5%	1/6W
R311	1-247-847-00	CARBON	4.7K	5%	1/6W
R312	1-247-841-00	CARBON	2.7K	5%	1/6W
R313	1-214-773-00	METAL	68K	1%	1/4W
R314 ⚠	1-212-857-00	FUSIBLE	10	5%	1/4W F
R315 ⚠	1-212-857-00	FUSIBLE	10	5%	1/4W F
R316	1-247-804-00	CARBON	75	5%	1/6W
R317	1-247-804-00	CARBON	75	5%	1/6W
R318	1-247-804-00	CARBON	75	5%	1/6W
R319	1-247-807-00	CARBON	100	5%	1/6W
R401	1-214-705-00	METAL	100	1%	1/4W
R402	1-214-884-00	METAL	6.8K	1%	1/2W
R403	1-214-880-00	METAL	4.7K	1%	1/2W
R404	1-214-705-00	METAL	100	1%	1/4W
R405	1-214-705-00	METAL	100	1%	1/4W
R406	1-214-884-00	METAL	6.8K	1%	1/2W
R407	1-214-880-00	METAL	4.7K	1%	1/2W
R408	1-214-705-00	METAL	100	1%	1/4W
R409	1-246-497-00	CARBON	10K	5%	1/4W

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- MMH : mH, UH : μH

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In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R410	1-246-473-00	CARBON	1K	5%	1/4W
R411	1-246-497-00	CARBON	10K	5%	1/4W
R412	1-246-473-00	CARBON	1K	5%	1/4W
R413	1-214-840-00	METAL	100	1%	1/2W
R414	1-214-872-00	METAL	2.2K	1%	1/2W
R415	1-214-844-00	METAL	150	1%	1/2W
R416	1-214-840-00	METAL	100	1%	1/2W
R417	1-214-872-00	METAL	2.2K	1%	1/2W
R418	1-214-844-00	METAL	150	1%	1/2W
R419	1-214-880-00	METAL	4.7K	1%	1/2W
R420	1-214-880-00	METAL	4.7K	1%	1/2W
R421	1-214-737-00	METAL	2.2K	1%	1/4W
R422 ⚠	1-212-990-00	FUSIBLE	220	5%	1/2W F
R423	1-214-737-00	METAL	2.2K	1%	1/4W
R424 ⚠	1-212-990-00	FUSIBLE	220	5%	1/2W F
R501	1-247-804-00	CARBON	75	5%	1/6W
R502	1-247-831-00	CARBON	1K	5%	1/6W
R503	1-247-833-00	CARBON	1.2K	5%	1/6W
R504	1-247-855-00	CARBON	10K	5%	1/6W
R505	1-247-831-00	CARBON	1K	5%	1/6W
R506	1-247-838-00	CARBON	2K	5%	1/6W
R507	1-247-855-00	CARBON	10K	5%	1/6W
R508	1-247-847-00	CARBON	4.7K	5%	1/6W
R509	1-247-831-00	CARBON	1K	5%	1/6W
R510	1-247-831-00	CARBON	1K	5%	1/6W
R511	1-247-831-00	CARBON	1K	5%	1/6W
R512	1-247-855-00	CARBON	10K	5%	1/6W
R513	1-247-831-00	CARBON	1K	5%	1/6W
R514	1-247-847-00	CARBON	4.7K	5%	1/6W
R515	1-247-871-00	CARBON	47K	5%	1/6W
R516	1-247-807-00	CARBON	100	5%	1/6W
R517	1-247-843-00	CARBON	3.3K	5%	1/6W
R518	1-247-885-00	CARBON	180K	5%	1/6W
R519	1-247-831-00	CARBON	1K	5%	1/6W
R520	1-247-855-00	CARBON	10K	5%	1/6W
R521	1-247-847-00	CARBON	4.7K	5%	1/6W
R522	1-247-871-00	CARBON	47K	5%	1/6W
R523	1-247-843-00	CARBON	3.3K	5%	1/6W
R524	1-247-877-00	CARBON	82K	5%	1/6W
R525	1-247-869-00	CARBON	39K	5%	1/6W
R526	1-247-855-00	CARBON	10K	5%	1/6W
R527	1-247-847-00	CARBON	4.7K	5%	1/6W
R528	1-247-847-00	CARBON	4.7K	5%	1/6W
R529	1-247-823-00	CARBON	470	5%	1/6W
R530	1-247-831-00	CARBON	1K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R531	1-247-836-00	CARBON	1.6K	5%	1/6W
R532	1-247-823-00	CARBON	470	5%	1/6W
R533	1-247-831-00	CARBON	1K	5%	1/6W
R536	1-247-891-00	CARBON	330K	5%	1/6W
R537	1-247-851-00	CARBON	6.8K	5%	1/6W
R538	1-247-847-00	CARBON	4.7K	5%	1/6W
R539	1-247-863-00	CARBON	22K	5%	1/6W
R540	1-247-842-00	CARBON	3K	5%	1/6W
R541	1-247-823-00	CARBON	470	5%	1/6W
R542	1-247-823-00	CARBON	470	5%	1/6W
R543	1-247-823-00	CARBON	470	5%	1/6W
R544	1-247-807-00	CARBON	100	5%	1/6W
R545	1-247-807-00	CARBON	100	5%	1/6W
R546	1-247-817-00	CARBON	270	5%	1/6W
R547	1-247-863-00	CARBON	22K	5%	1/6W
R548	1-247-839-00	CARBON	2.2K	5%	1/6W
R549	1-247-879-00	CARBON	100K	5%	1/6W
R550	1-247-879-00	CARBON	100K	5%	1/6W
R551	1-247-879-00	CARBON	100K	5%	1/6W
R552	1-247-863-00	CARBON	22K	5%	1/6W
R553	1-247-863-00	CARBON	22K	5%	1/6W
R554	1-247-863-00	CARBON	22K	5%	1/6W
R555	1-247-863-00	CARBON	22K	5%	1/6W
R556	1-247-863-00	CARBON	22K	5%	1/6W
R557	1-247-863-00	CARBON	22K	5%	1/6W
R558	1-247-863-00	CARBON	22K	5%	1/6W
R559	1-247-863-00	CARBON	22K	5%	1/6W
R560	1-247-863-00	CARBON	22K	5%	1/6W
R561	1-247-863-00	CARBON	22K	5%	1/6W
R562	1-247-863-00	CARBON	22K	5%	1/6W
R563	1-247-863-00	CARBON	22K	5%	1/6W
R564	1-247-863-00	CARBON	22K	5%	1/6W
R565	1-247-863-00	CARBON	22K	5%	1/6W
R566	1-247-863-00	CARBON	22K	5%	1/6W
R567	1-247-863-00	CARBON	22K	5%	1/6W
R568	1-247-831-00	CARBON	1K	5%	1/6W
R569	1-247-807-00	CARBON	100	5%	1/6W
R570	1-247-879-00	CARBON	100K	5%	1/6W
R571	1-247-853-00	CARBON	8.2K	5%	1/6W
R572	1-247-853-00	CARBON	8.2K	5%	1/6W
R573	1-247-853-00	CARBON	8.2K	5%	1/6W
R574	1-247-853-00	CARBON	8.2K	5%	1/6W
R575	1-247-853-00	CARBON	8.2K	5%	1/6W
R576	1-247-853-00	CARBON	8.2K	5%	1/6W
R577	1-247-853-00	CARBON	8.2K	5%	1/6W

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ELECTRICAL PARTS

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R578	1-247-853-00	CARBON	8.2K	5%	1/6W
R579	1-247-848-00	CARBON	5.1K	5%	1/6W
R580	1-247-813-00	CARBON	180	5%	1/6W
R581	1-247-819-00	CARBON	330	5%	1/6W
R582	1-247-821-00	CARBON	390	5%	1/6W
R583	1-247-833-00	CARBON	1.2K	5%	1/6W
R584	1-247-827-00	CARBON	680	5%	1/6W
R585	1-247-831-00	CARBON	1K	5%	1/6W
R586	1-247-807-00	CARBON	100	5%	1/6W
R587	1-247-803-00	CARBON	68	5%	1/6W
R588	1-247-803-00	CARBON	68	5%	1/6W
R589	1-214-128-00	METAL	680	1%	1/4W
R590	1-247-815-00	CARBON	220	5%	1/6W
R591	1-247-815-00	CARBON	220	5%	1/6W
R592	1-247-855-00	CARBON	10K	5%	1/6W
R593	1-247-843-00	CARBON	3.3K	5%	1/6W
R594	1-247-813-00	CARBON	180	5%	1/6W
R595	1-247-833-00	CARBON	1.2K	5%	1/6W
R596	1-247-863-00	CARBON	22K	5%	1/6W
R597	1-247-863-00	CARBON	22K	5%	1/6W
R598	1-247-863-00	CARBON	22K	5%	1/6W
R599	1-247-823-00	CARBON	470	5%	1/6W
R601	1-247-879-00	CARBON	100K	5%	1/6W
R602	1-247-879-00	CARBON	100K	5%	1/6W
R603	1-247-879-00	CARBON	100K	5%	1/6W
R604	1-247-855-00	CARBON	10K	5%	1/6W
R605	1-247-879-00	CARBON	100K	5%	1/6W
R606	1-247-879-00	CARBON	100K	5%	1/6W
R607	1-247-879-00	CARBON	100K	5%	1/6W
R608	1-247-879-00	CARBON	100K	5%	1/6W
R609	1-247-879-00	CARBON	100K	5%	1/6W
R610	1-247-879-00	CARBON	100K	5%	1/6W
R611	1-247-879-00	CARBON	100K	5%	1/6W
R612	1-247-879-00	CARBON	100K	5%	1/6W
R613	1-247-879-00	CARBON	100K	5%	1/6W
R614	1-247-879-00	CARBON	100K	5%	1/6W
R615	1-247-879-00	CARBON	100K	5%	1/6W
R616	1-247-879-00	CARBON	100K	5%	1/6W
R617	1-247-879-00	CARBON	100K	5%	1/6W
R618	1-247-879-00	CARBON	100K	5%	1/6W
R619	1-247-879-00	CARBON	100K	5%	1/6W
R620	1-247-879-00	CARBON	100K	5%	1/6W
R621	1-247-879-00	CARBON	100K	5%	1/6W
R622	1-247-879-00	CARBON	100K	5%	1/6W
R623	1-247-879-00	CARBON	100K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R624	1-247-879-00	CARBON	100K	5%	1/6W
R625	1-247-879-00	CARBON	100K	5%	1/6W
R626	1-247-879-00	CARBON	100K	5%	1/6W
R627	1-247-879-00	CARBON	100K	5%	1/6W
R628	1-247-879-00	CARBON	100K	5%	1/6W
R629	1-247-879-00	CARBON	100K	5%	1/6W
R630	1-247-879-00	CARBON	100K	5%	1/6W
R631	1-247-879-00	CARBON	100K	5%	1/6W
R632	1-247-879-00	CARBON	100K	5%	1/6W
R633	1-247-855-00	CARBON	10K	5%	1/6W
R634	1-247-874-00	CARBON	62K	5%	1/6W
R635	1-247-879-00	CARBON	100K	5%	1/6W
R636	1-247-855-00	CARBON	10K	5%	1/6W
R637	1-247-874-00	CARBON	62K	5%	1/6W
R638	1-247-879-00	CARBON	100K	5%	1/6W
R639	1-247-855-00	CARBON	10K	5%	1/6W
R640	1-247-863-00	CARBON	22K	5%	1/6W
R641	1-247-863-00	CARBON	22K	5%	1/6W
R642	1-247-863-00	CARBON	22K	5%	1/6W
R643	1-247-863-00	CARBON	22K	5%	1/6W
R644	1-247-863-00	CARBON	22K	5%	1/6W
R645	1-214-163-00	METAL	20K	1%	1/4W
R646	1-214-163-00	METAL	20K	1%	1/4W
R647	1-214-163-00	METAL	20K	1%	1/4W
R648	1-214-163-00	METAL	20K	1%	1/4W
R649	1-214-163-00	METAL	20K	1%	1/4W
R650	1-214-156-00	METAL	10K	1%	1/4W
R651	1-214-156-00	METAL	10K	1%	1/4W
R652	1-214-156-00	METAL	10K	1%	1/4W
R653	1-214-156-00	METAL	10K	1%	1/4W
R654	1-214-156-00	METAL	10K	1%	1/4W
R655	1-214-149-00	METAL	5.1K	1%	1/4W
R656	1-214-163-00	METAL	20K	1%	1/4W
R657	1-247-903-00	CARBON	1M	5%	1/6W
R658	1-247-783-00	CARBON	10	5%	1/6W
R659	1-247-783-00	CARBON	10	5%	1/6W
R660	1-247-783-00	CARBON	10	5%	1/6W
R661	1-247-783-00	CARBON	10	5%	1/6W
R662	1-247-783-00	CARBON	10	5%	1/6W
R663	1-247-783-00	CARBON	10	5%	1/6W
R664	1-247-783-00	CARBON	10	5%	1/6W
R701	1-247-855-00	CARBON	10K	5%	1/6W
R702	1-247-855-00	CARBON	10K	5%	1/6W
R703	1-247-813-00	CARBON	180	5%	1/6W
R704	1-247-855-00	CARBON	10K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R705	1-247-850-00	CARBON	6.2K	5%	1/6W
R706	1-247-855-00	CARBON	10K	5%	1/6W
R707	1-247-855-00	CARBON	10K	5%	1/6W
R708	1-247-855-00	CARBON	10K	5%	1/6W
R709	1-247-809-00	CARBON	120	5%	1/6W
R710	1-247-855-00	CARBON	10K	5%	1/6W
R713	1-247-831-00	CARBON	1K	5%	1/6W
R714	1-247-831-00	CARBON	1K	5%	1/6W
R801	1-246-481-00	CARBON	2.2K	5%	1/4W
R802	1-246-528-00	CARBON	200K	5%	1/4W
R803	1-246-459-00	CARBON	270	5%	1/4W
R804	1-246-472-00	CARBON	910	5%	1/4W
R805	1-246-461-00	CARBON	330	5%	1/4W
R806	1-246-473-00	CARBON	1K	5%	1/4W
R807	1-246-545-00	CARBON	1M	5%	1/4W
R808	1-246-497-00	CARBON	10K	5%	1/4W
R809	1-246-481-00	CARBON	2.2K	5%	1/4W
R810	1-246-528-00	CARBON	200K	5%	1/4W
R811	1-246-459-00	CARBON	270	5%	1/4W
R812	1-246-472-00	CARBON	910	5%	1/4W
R813	1-246-461-00	CARBON	330	5%	1/4W
R814	1-246-473-00	CARBON	1K	5%	1/4W
R815	1-246-545-00	CARBON	1M	5%	1/4W
R816	1-246-497-00	CARBON	10K	5%	1/4W
R817	1-246-497-00	CARBON	10K	5%	1/4W
R818	1-246-497-00	CARBON	10K	5%	1/4W
R819	1-246-521-00	CARBON	100K	5%	1/4W
R820	1-246-445-00	CARBON	68	5%	1/4W
R821	1-246-492-00	CARBON	6.2K	5%	1/4W
R822	1-246-489-00	CARBON	4.7K	5%	1/4W
R823	1-246-505-00	CARBON	22K	5%	1/4W
R824	1-246-457-00	CARBON	220	5%	1/4W
R825	1-246-489-00	CARBON	4.7K	5%	1/4W
R826	1-246-497-00	CARBON	10K	5%	1/4W
R827	1-246-497-00	CARBON	10K	5%	1/4W
R828	1-246-489-00	CARBON	4.7K	5%	1/4W
R829	1-246-489-00	CARBON	4.7K	5%	1/4W
R830	1-246-489-00	CARBON	4.7K	5%	1/4W
R831	1-246-513-00	CARBON	47K	5%	1/4W
R832	1-246-449-00	CARBON	100	5%	1/4W
R833	1-246-497-00	CARBON	10K	5%	1/4W
R834	1-246-497-00	CARBON	10K	5%	1/4W
R835	1-246-497-00	CARBON	10K	5%	1/4W
R836	1-246-471-00	CARBON	820	5%	1/4W
R837	1-246-460-00	CARBON	300	5%	1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R838	1-246-425-00	CARBON	10	5%	1/4W
R839	1-246-450-00	CARBON	110	5%	1/4W
R840	1-246-449-00	CARBON	100	5%	1/4W
R841	1-246-475-00	CARBON	1.2K	5%	1/4W
R842	1-246-445-00	CARBON	68	5%	1/4W
R843	1-246-497-00	CARBON	10K	5%	1/4W
R845	1-246-497-00	CARBON	10K	5%	1/4W
R846	1-246-497-00	CARBON	10K	5%	1/4W
R847	1-246-525-00	CARBON	150K	5%	1/4W
R848	1-246-521-00	CARBON	100K	5%	1/4W
R849	1-246-505-00	CARBON	22K	5%	1/4W
R850	1-246-505-00	CARBON	22K	5%	1/4W
R851	1-244-855-00	CARBON	180	5%	1/2W
R852	1-246-473-00	CARBON	1K	5%	1/4W
R853	1-246-481-00	CARBON	2.2K	5%	1/4W
R854	1-246-481-00	CARBON	2.2K	5%	1/4W
R855	1-246-501-00	CARBON	15K	5%	1/4W
R856	1-246-513-00	CARBON	47K	5%	1/4W
R857	1-246-517-00	CARBON	68K	5%	1/4W
R858	1-244-857-00	CARBON	220	5%	1/2W
R859	1-244-857-00	CARBON	220	5%	1/2W
R860 ⚠	1-206-439-00	METAL OXIDE	1	5%	2W F
R861 ⚠	1-215-075-00	METAL OXIDE	0.47	5%	2W F
R862 ⚠	1-212-857-00	FUSIBLE	10	5%	1/4W F
R863 ⚠	1-212-857-00	FUSIBLE	10	5%	1/4W F
R864	1-244-881-00	CARBON	2.2K	5%	1/2W
R867	1-246-497-00	CARBON	10K	5%	1/4W
R868	1-246-497-00	CARBON	10K	5%	1/4W
R869	1-246-497-00	CARBON	10K	5%	1/4W
R874	1-246-505-00	CARBON	22K	5%	1/4W
R875	1-246-489-00	CARBON	4.7K	5%	1/4W
R901	1-247-825-00	CARBON	560	5%	1/6W
R902	1-247-879-00	CARBON	100K	5%	1/6W
R903	1-247-809-00	CARBON	120	5%	1/6W
R904	1-247-863-00	CARBON	22K	5%	1/6W
R905	1-247-865-00	CARBON	27K	5%	1/6W
R906	1-247-851-00	CARBON	6.8K	5%	1/6W
R907	1-247-847-00	CARBON	4.7K	5%	1/6W
R908	1-247-799-00	CARBON	47	5%	1/6W
R909	1-214-173-00	METAL	51K	1%	1/4W
R910	1-247-871-00	CARBON	47K	5%	1/6W
R911	1-247-855-00	CARBON	10K	5%	1/6W
R912	1-247-871-00	CARBON	47K	5%	1/6W
R913	1-214-173-00	METAL	51K	1%	1/4W
R914	1-214-173-00	METAL	51K	1%	1/4W

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- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R915	1-214-144-00	METAL	3.3K	1%	1/4W
R916	1-214-174-00	METAL	56K	1%	1/4W
R917	1-214-177-00	METAL	75K	1%	1/4W
R918	1-214-163-00	METAL	20K	1%	1/4W
R919	1-247-831-00	CARBON	1K	5%	1/6W
R920	1-247-862-00	CARBON	20K	5%	1/6W
R921	1-247-862-00	CARBON	20K	5%	1/6W
R922	1-247-831-00	CARBON	1K	5%	1/6W
R923	1-247-871-00	CARBON	47K	5%	1/6W
R924	1-247-831-00	CARBON	1K	5%	1/6W
R925	1-214-134-00	METAL	1.2K	1%	1/4W
R926	1-214-124-00	METAL	470	1%	1/4W
R950	1-214-112-00	METAL	150	1%	1/4W
R951	1-247-839-00	CARBON	2.2K	5%	1/6W
R952	1-244-839-00	CARBON	39	5%	1/2W
R1201⚠	1-244-933-00	CARBON	330K	5%	1/2W
RT801	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K			
RT802	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K			
RT803	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K			
RV101	1-224-253-31	RES, ADJ, METAL GLAZE 22K			
RV102	1-224-550-31	RES, ADJ, METAL GLAZE 220			
RV103	1-224-248-31	RES, ADJ, METAL GLAZE 470			
RV104	1-224-253-31	RES, ADJ, METAL GLAZE 22K			
RV201	1-224-253-31	RES, ADJ, METAL GLAZE 22K			
RV202	1-224-550-31	RES, ADJ, METAL GLAZE 220			
RV203	1-224-248-31	RES, ADJ, METAL GLAZE 470			
RV204	1-224-253-31	RES, ADJ, METAL GLAZE 22K			
RV301	1-228-924-00	RES, VAR, CARBON 50K/50K			
RY301	1-515-323-00	RELAY			
RY302	1-515-323-00	RELAY			
RY303	1-515-323-00	RELAY			
RY801	1-515-473-00	RELAY			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S301	1-553-254-00	SWITCH, ROTARY
S501	1-554-382-00	SWITCH, PUSH (2 KEY)
S701	1-554-303-00	SWITCH, KEY BOARD
S702	1-554-303-00	SWITCH, KEY BOARD
S703	1-554-303-00	SWITCH, KEY BOARD
S704	1-554-303-00	SWITCH, KEY BOARD
S705	1-554-303-00	SWITCH, KEY BOARD
S706	1-553-739-21	SWITCH, KEY BOARD
S1301⚠	1-553-318-00	(AEP,UK).....SWITCH, PUSH (AC POWER)
S1301⚠	1-553-319-00	(US,Canadian)...SWITCH, PUSH (AC POWER)
T301	1-426-106-00	TRANSFORMER, RF
T302	1-426-090-00	TRANSFORMER, RF
T1301⚠	1-447-594-00	(US,Canadian)...TRANSFORMER, POWER
T1301⚠	1-447-595-00	(AEP,UK).....TRANSFORMER, POWER
W1	♦;1-535-118-00	TERMINAL
W2	♦;1-535-118-00	TERMINAL
W3	♦;1-535-118-00	TERMINAL
W4	♦;1-535-116-00	TERMINAL
W5	♦;1-535-116-00	TERMINAL
X301	1-527-952-00	VIBRATOR, CRYSTAL
X302	1-527-948-12	VIBRATOR, CRYSTAL
X501	1-527-583-00	(NTSC).....OSCILLATOR, CRYSTAL
X501	1-527-788-00	(PAL/SECAM)...OSCILLATOR, CRYSTAL
X502	1-527-949-00	VIBRATOR, CRYSTAL
X503	1-527-871-21	OSCILLATOR, LITHIUM TANTALATE

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